Fig 1

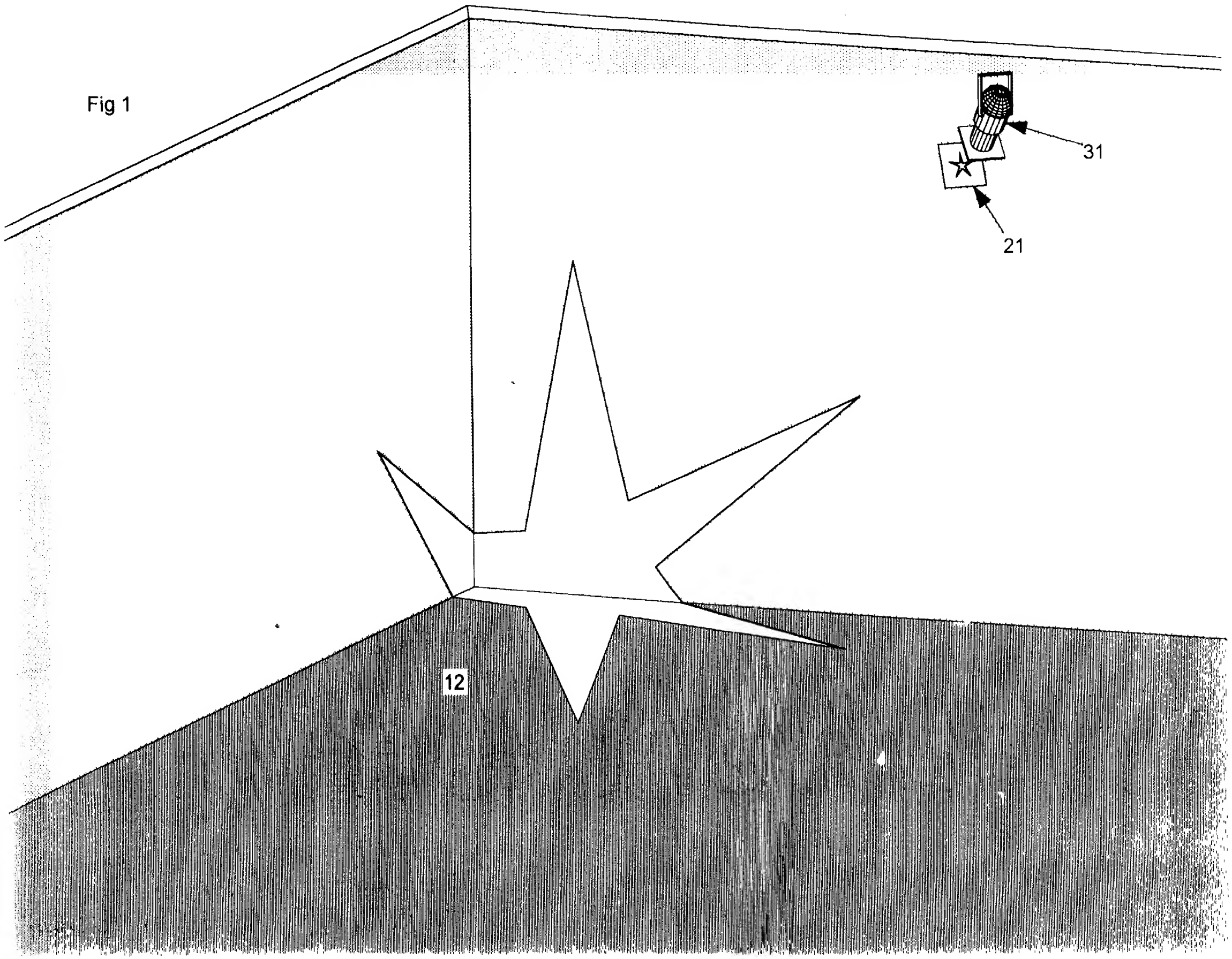
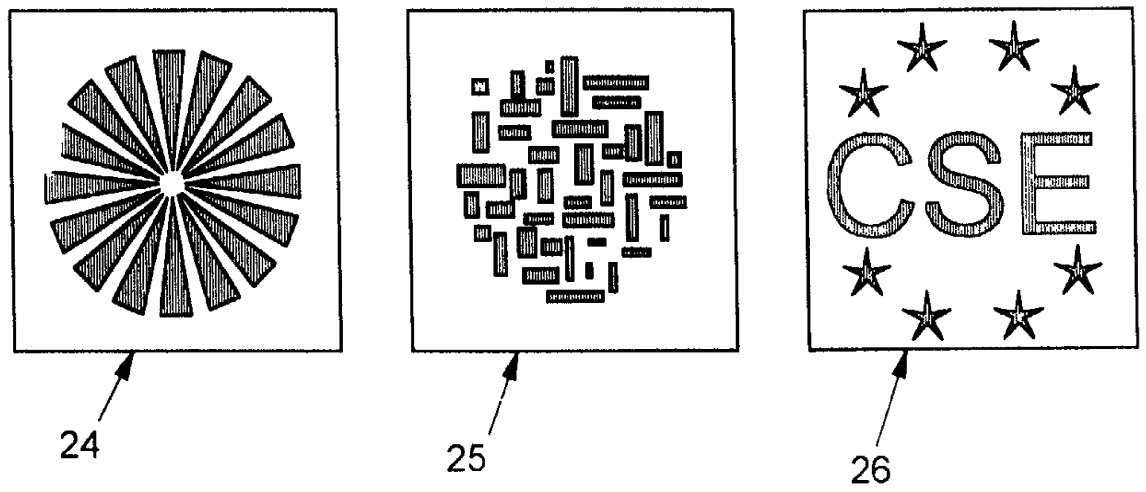


Fig 2



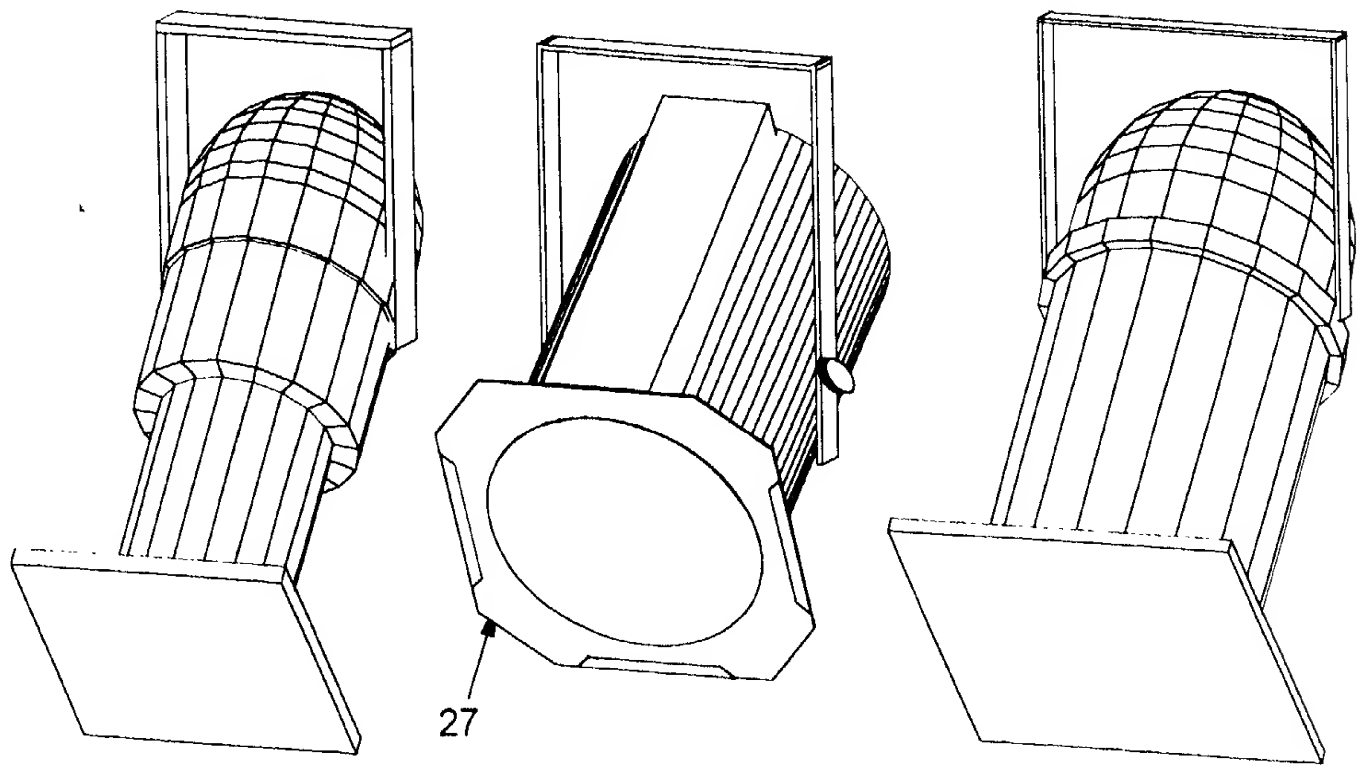


Fig 3

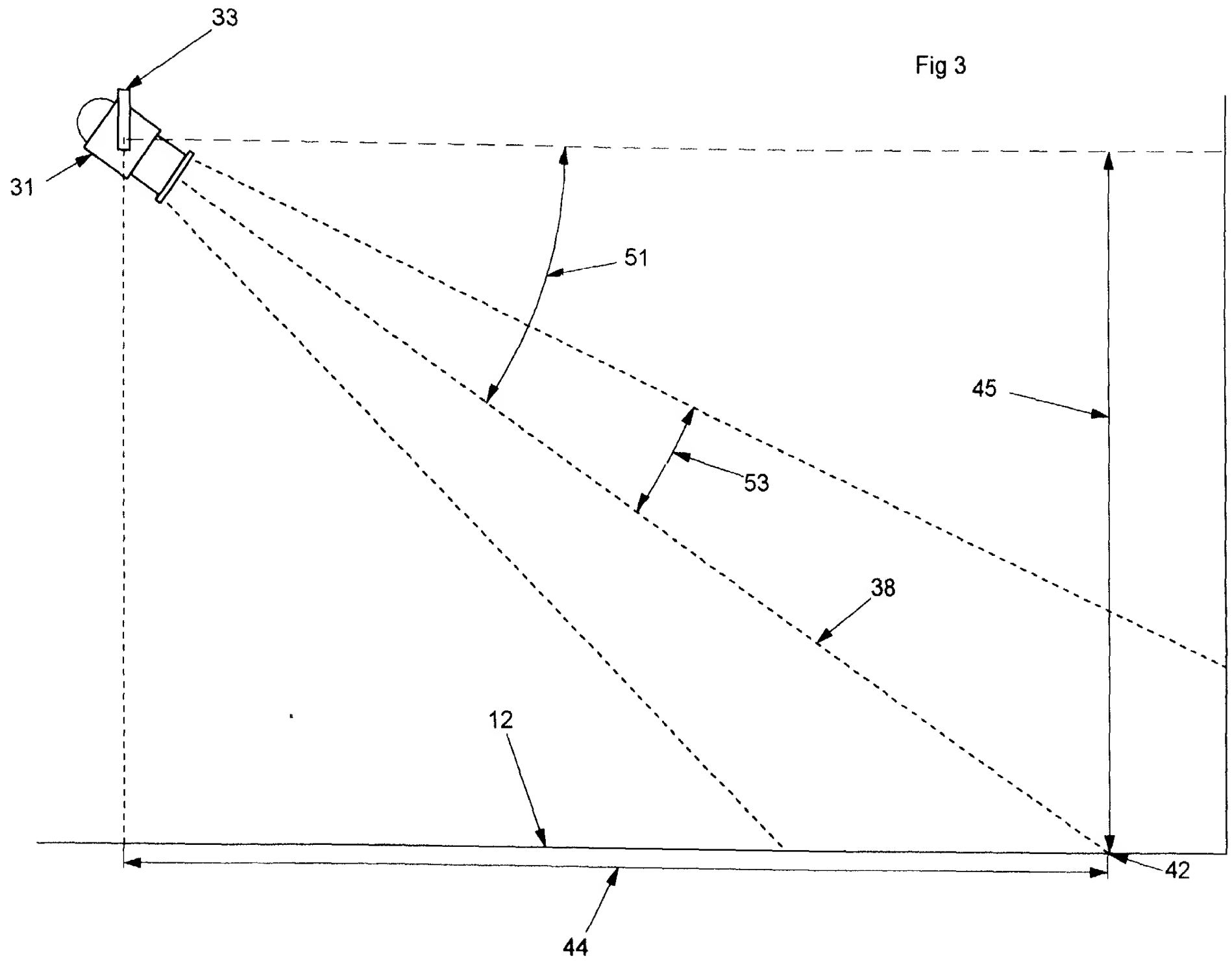
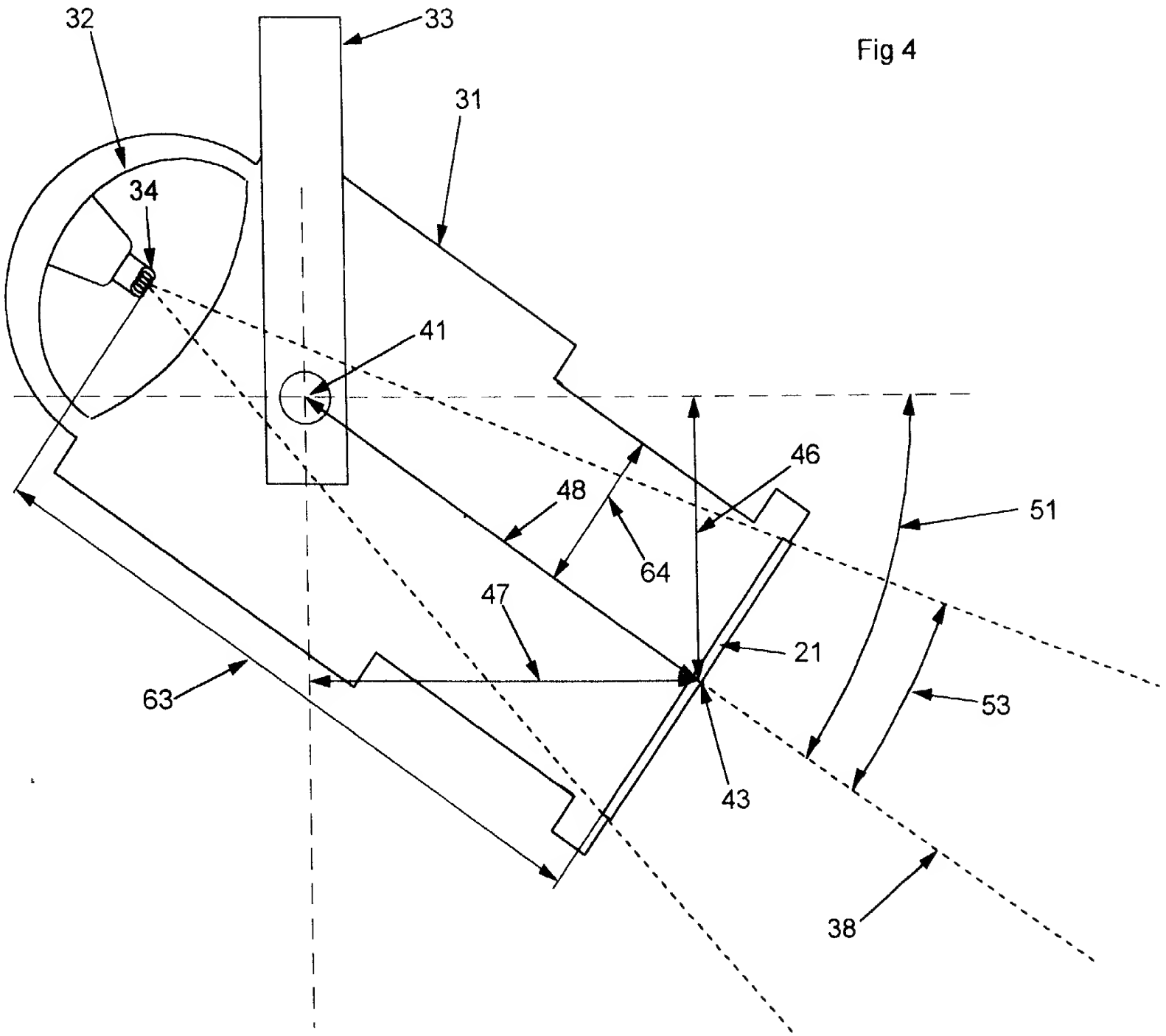


Fig 4



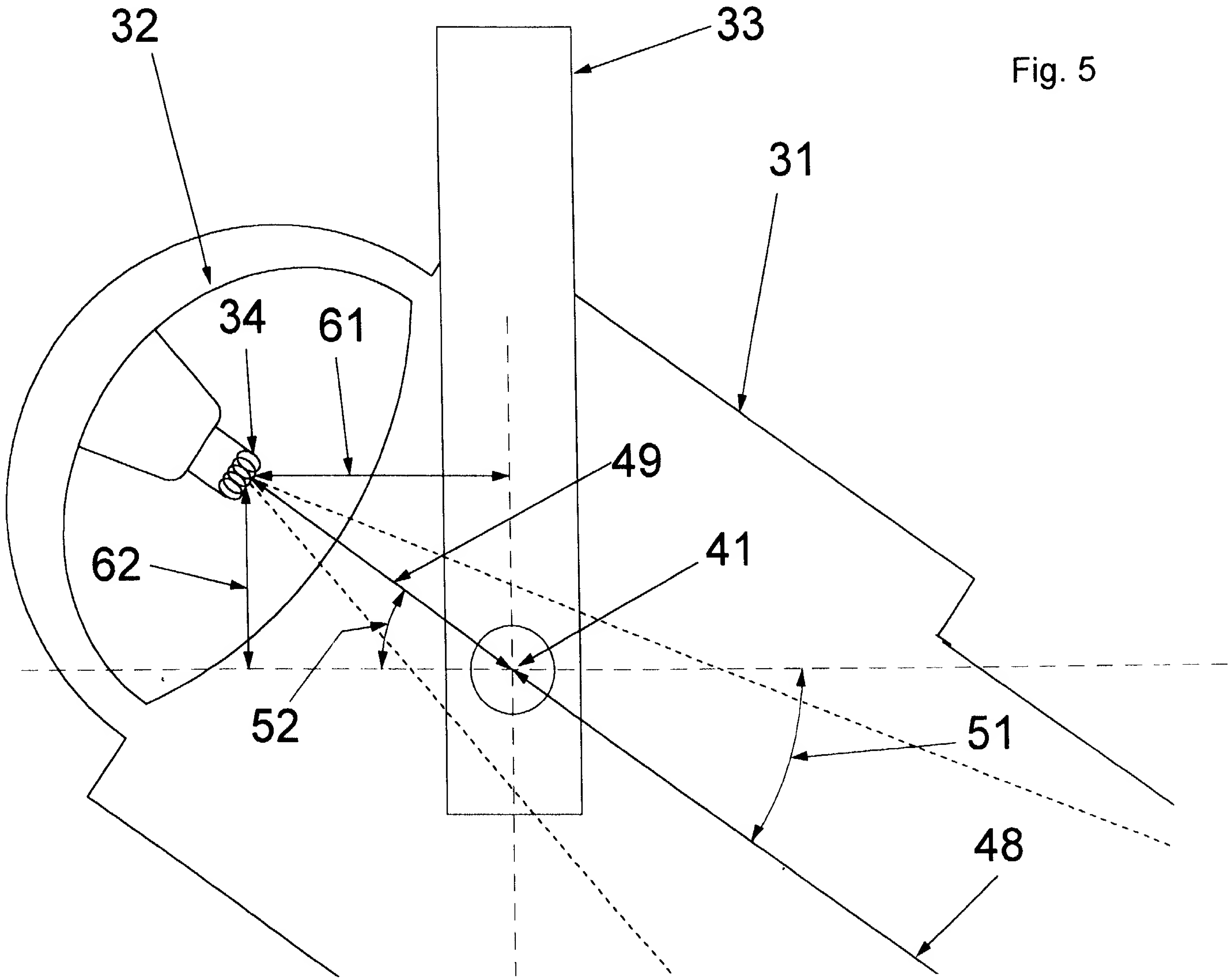


Fig. 5

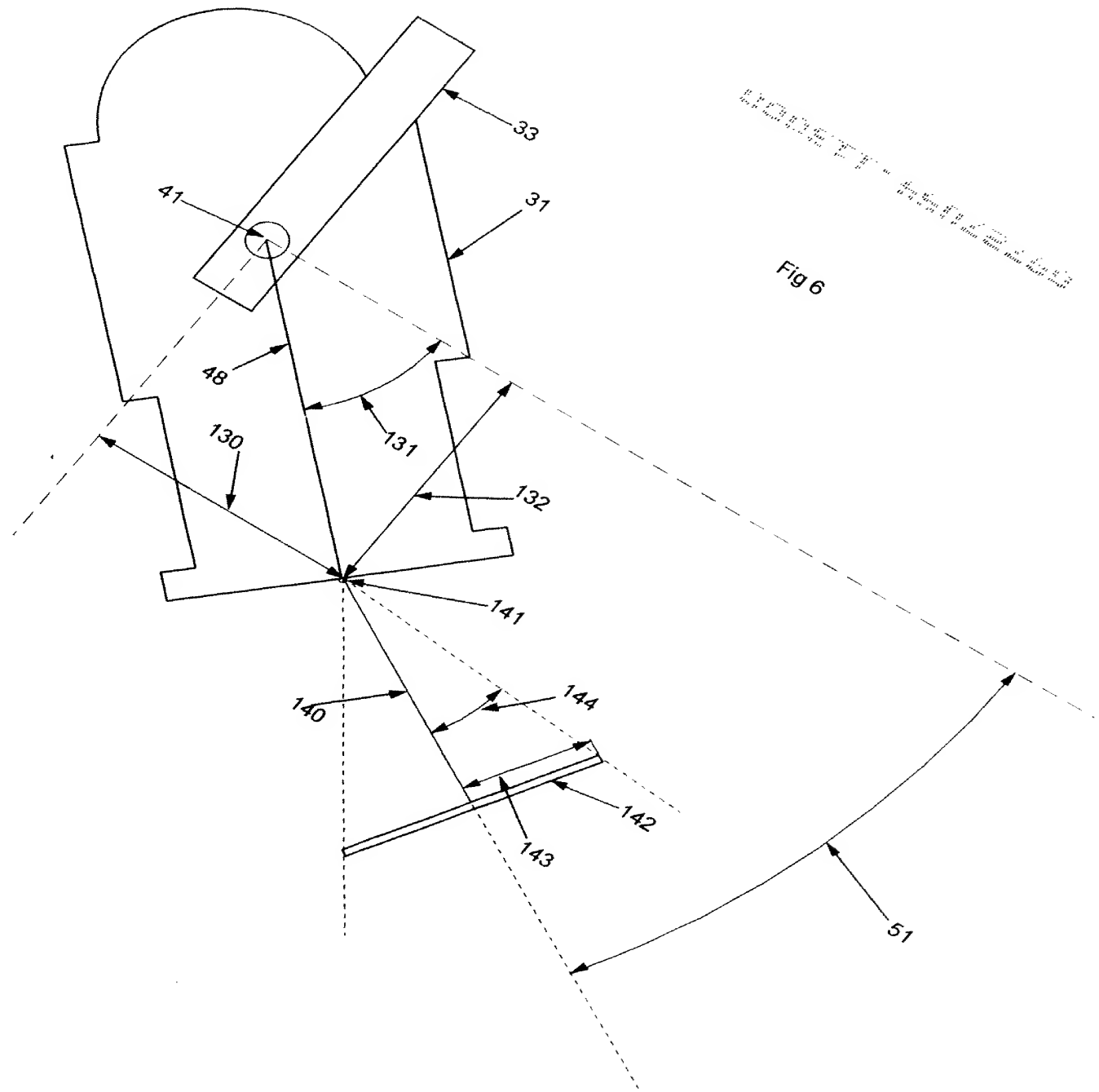


Fig 6

Fig 7

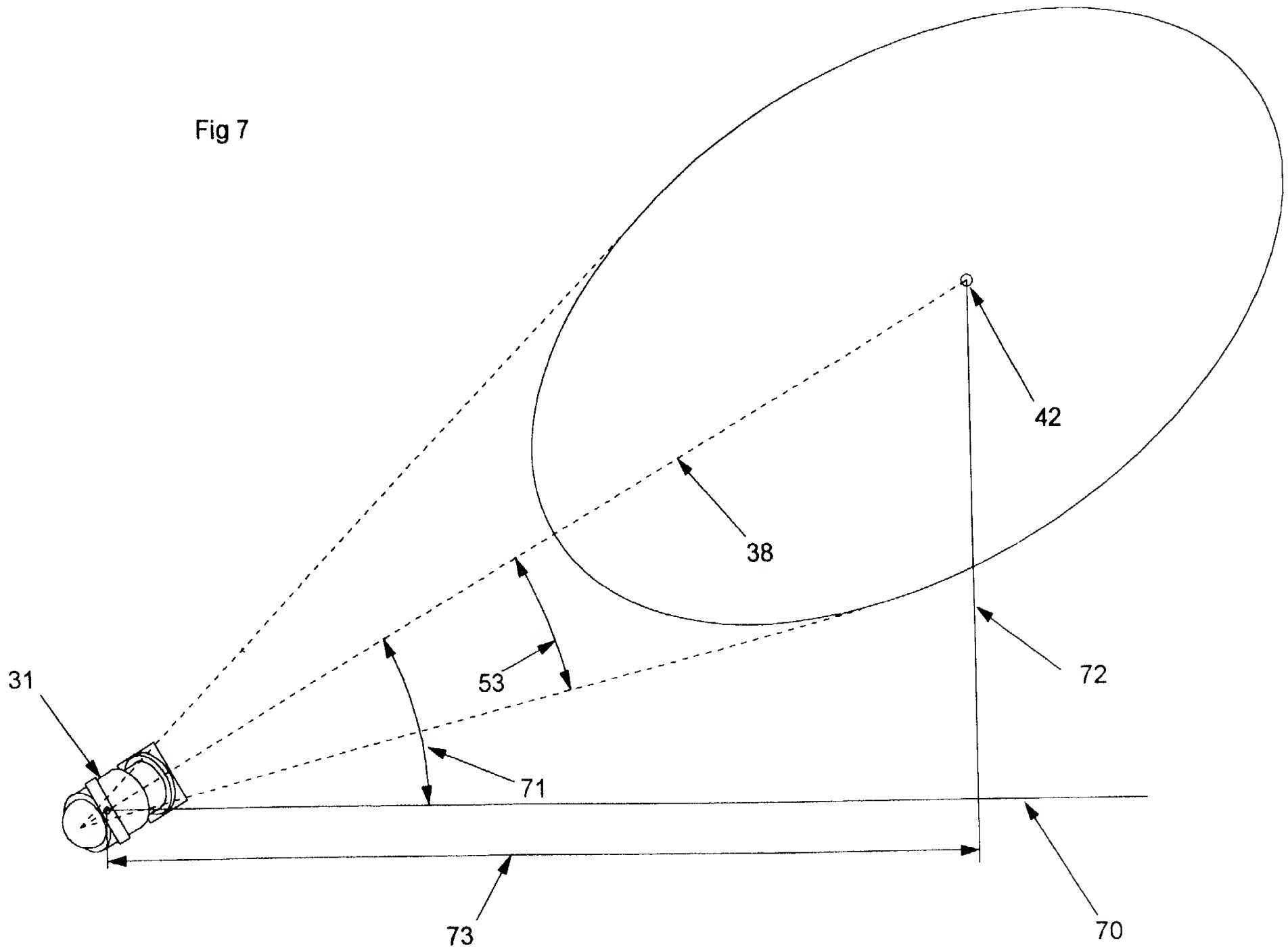


Fig 8

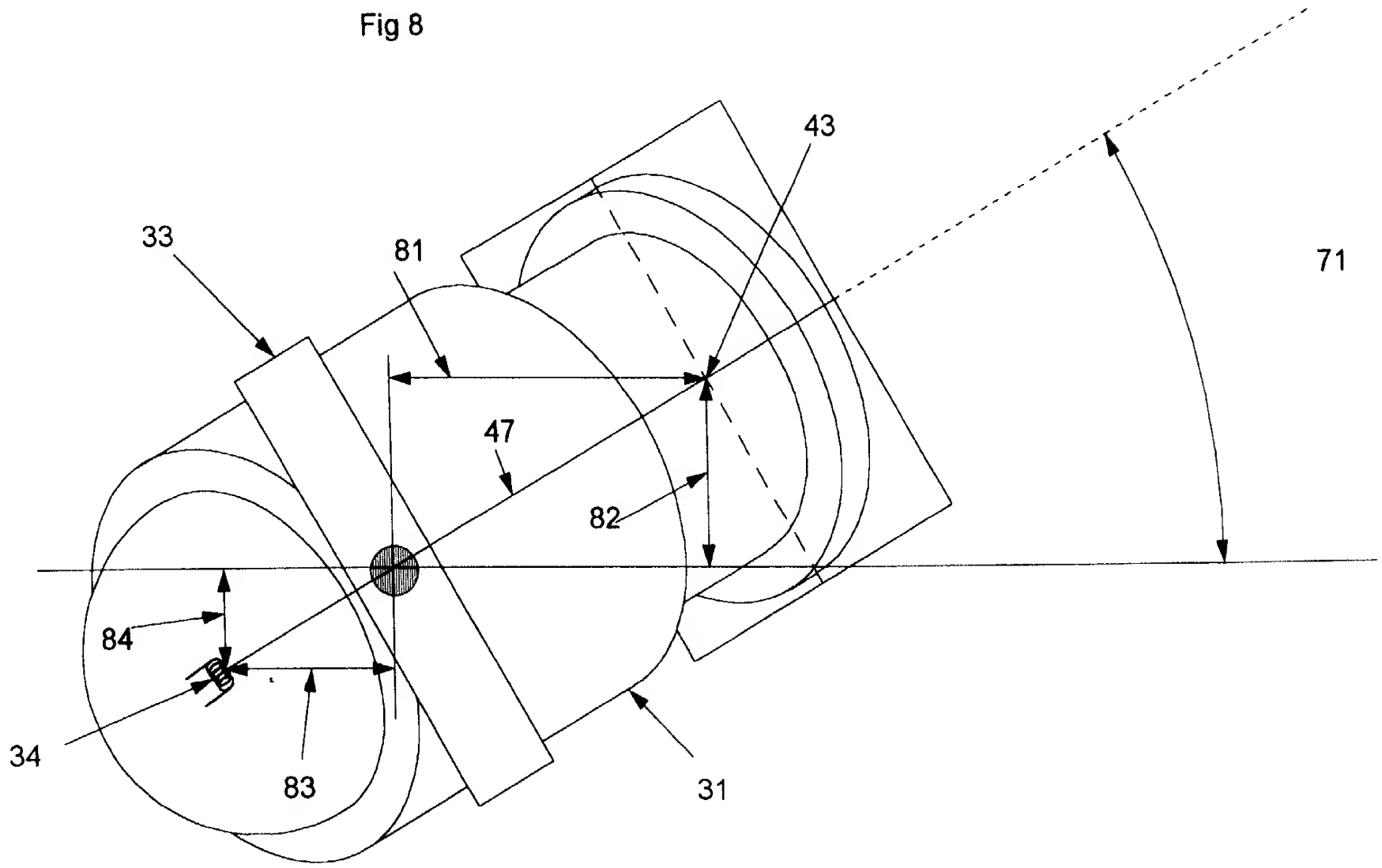


Fig 9

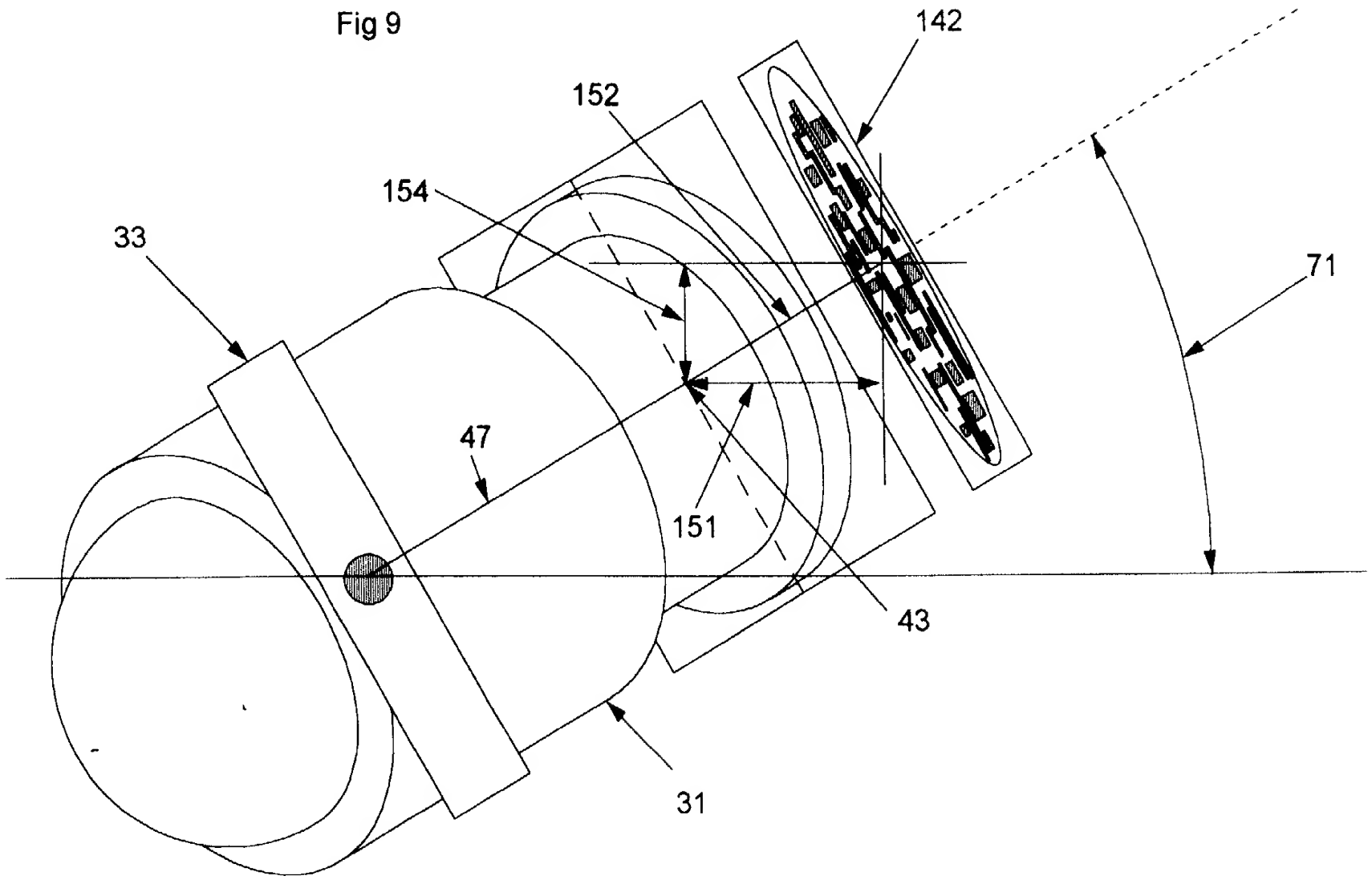


Fig. 10

Fixture Information

Fixture Type	Symbol Name
6 x 9 Long	6X9L

Lamp	Candlepower	Beam Angle
500SEL	45,000	17°

Gobo	Symbol Name	Color Filter
Flames	FLAM2	17 Firecracker Red

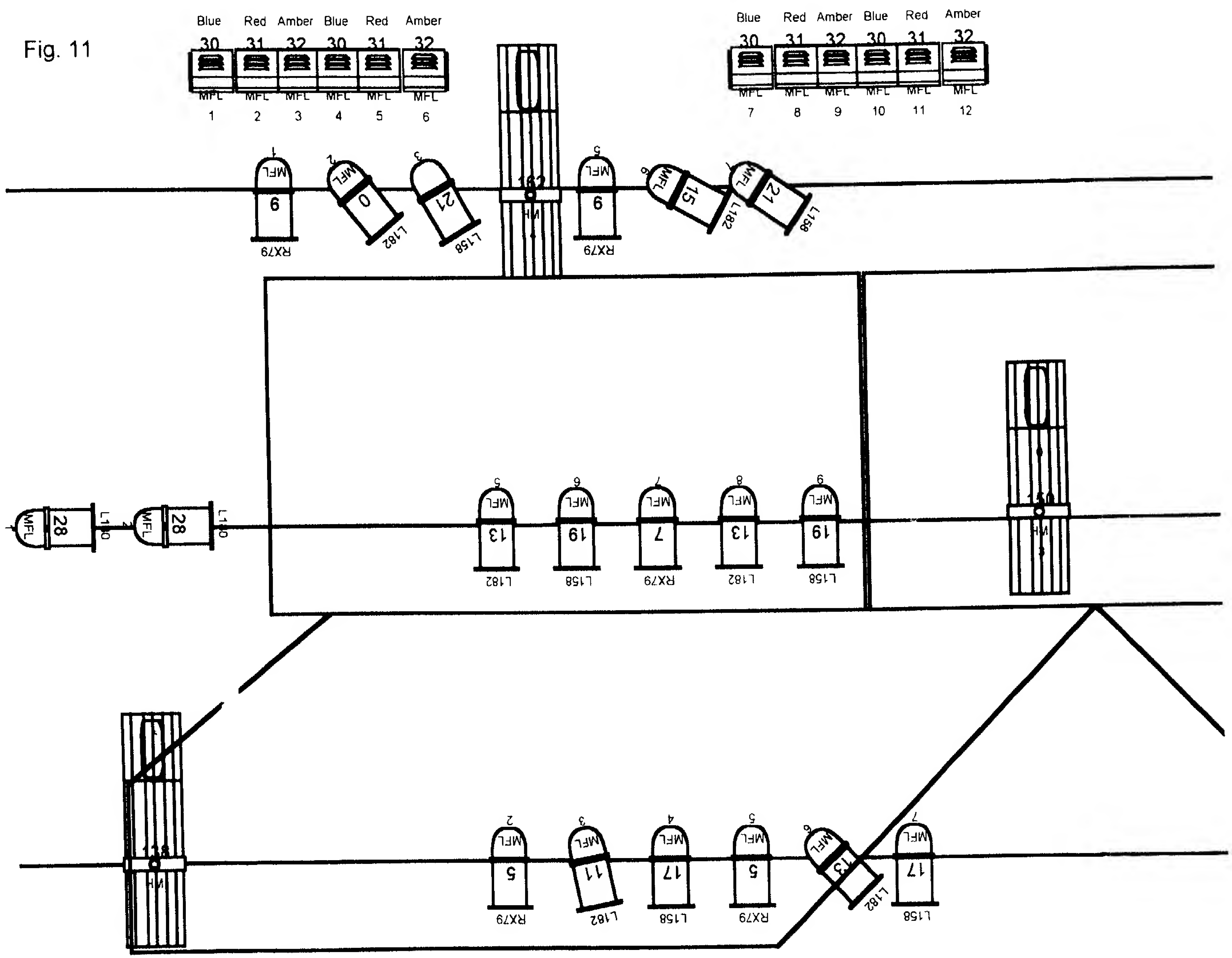
Fixture Location

X	Y	Z
33' 7"	18' 3"	18'

Target Location

X	Y	Z
-10' 6"	2' 1"	0"

Fig. 11



Blue
Red
Amber
Blue
Red
Amber
30
31
32
30
31
32
MFL
1
2
3
4
5
6
Blue
Red
Amber
Blue
Red
Amber
30
31
32
30
31
32
MFL
7
8
9
10
11
12

Fig. 12A

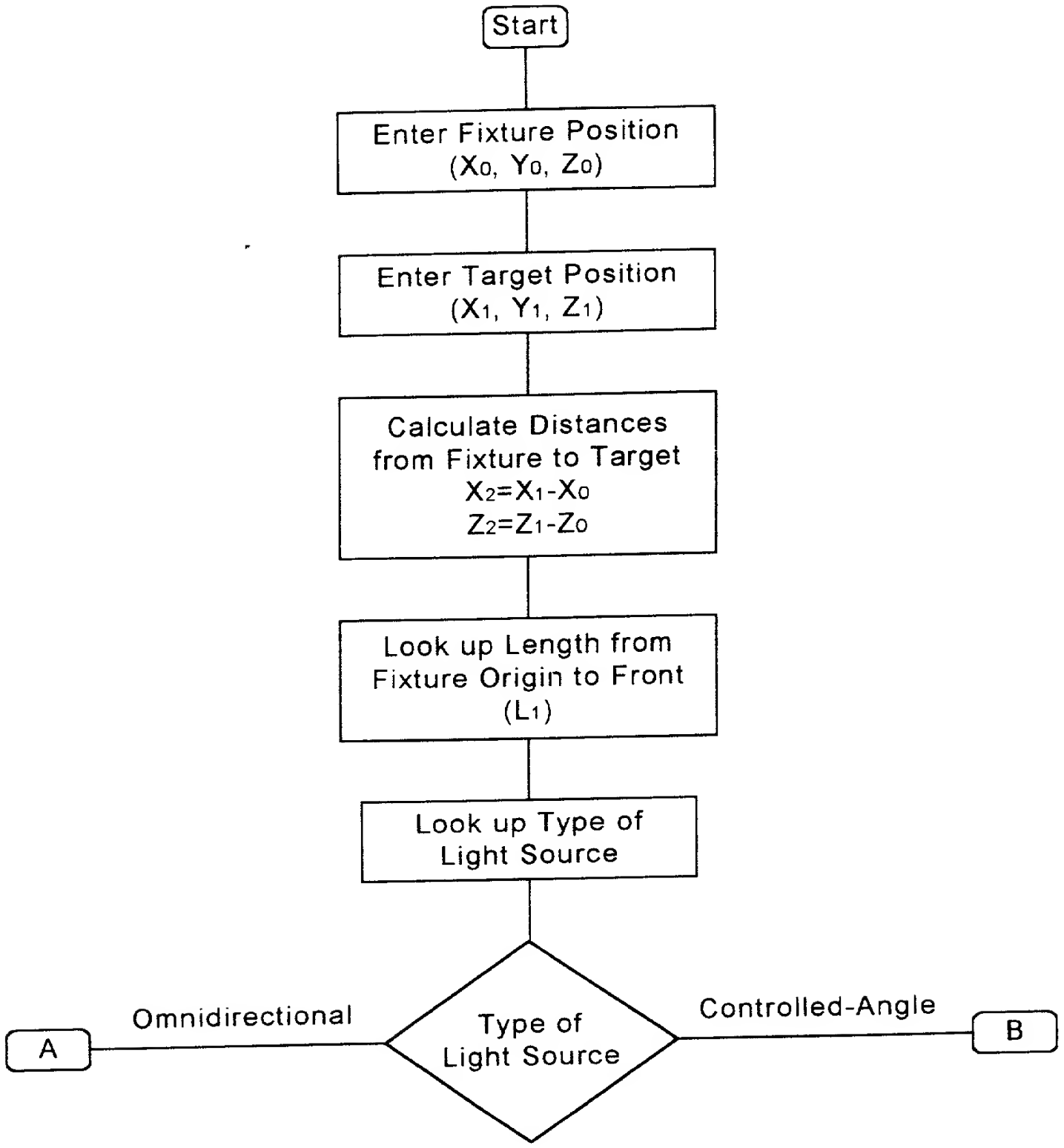

Start
Enter Fixture Position
(X0, Y0, Z0)
Enter Target Position
(X1, Y1, Z1)
Calculate Distances
from Fixture to Target
X2=X1-X0
Z2=Z1-Z0
Look up Length from
Fixture Origin to Front
(L1)
Look up Type of
Light Source
Type of
Light Source
Omnidirectional
Controlled-Angle
A
B

Fig. 12B

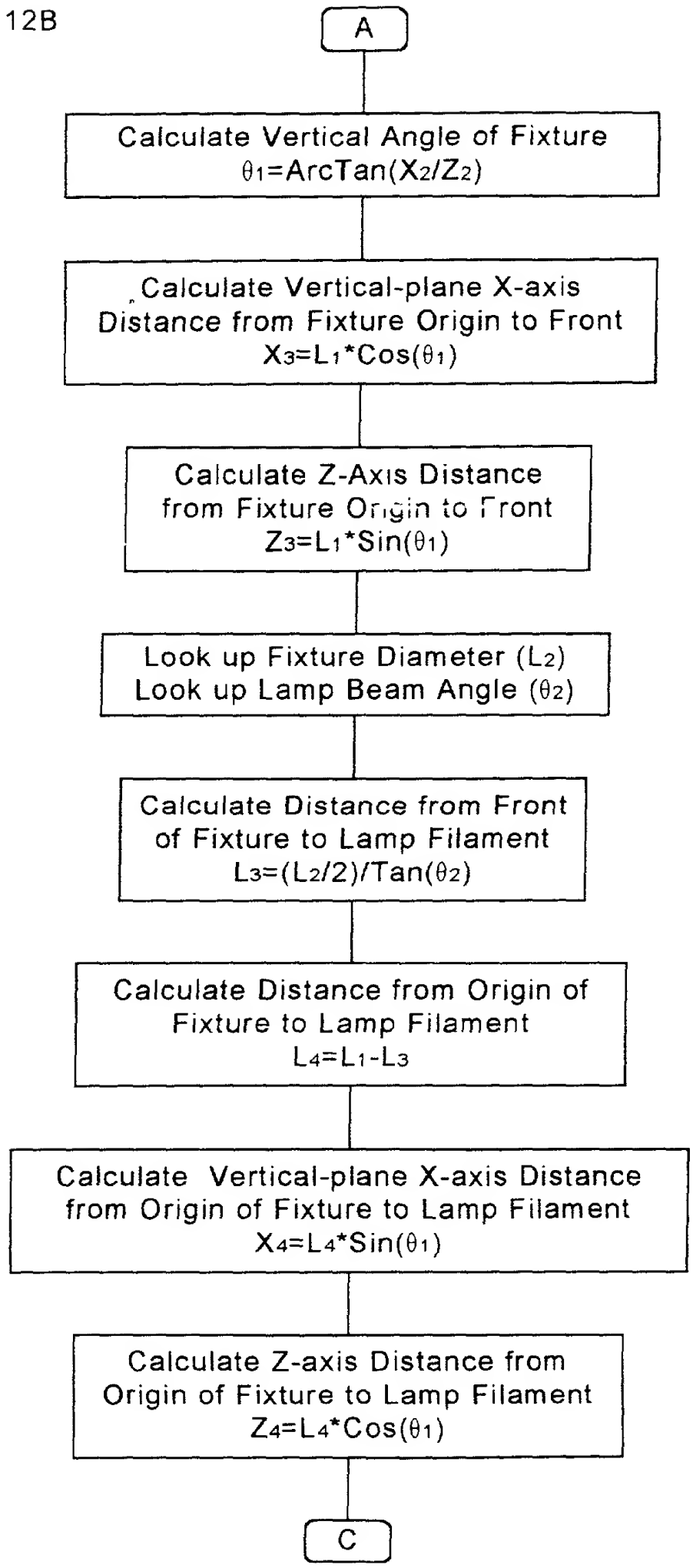

A
Calculate Vertical Angle of Fixture
θ1=ArcTan(X2/Z2)
Calculate Vertical-plane X-axis
Distance from Fixture Origin to Front
X3=L1*Cos(θ1)
Calculate Z-Axis Distance
from Fixture Origin to Front
Z3=L1*Sin(θ1)
Look up Fixture Diameter (L2)
Look up Lamp Beam Angle (θ2)
Calculate Distance from Front
of Fixture to Lamp Filament
L3=(L2/2)/Tan(θ2)
Calculate Distance from Origin of
Fixture to Lamp Filament
L4=L1-L3
Calculate Vertical-plane X-axis Distance
from Origin of Fixture to Lamp Filament
X4=L4*Sin(θ1)
Calculate Z-axis Distance from
Origin of Fixture to Lamp Filament
Z4=L4*Cos(θ1)
C

Fig. 12C

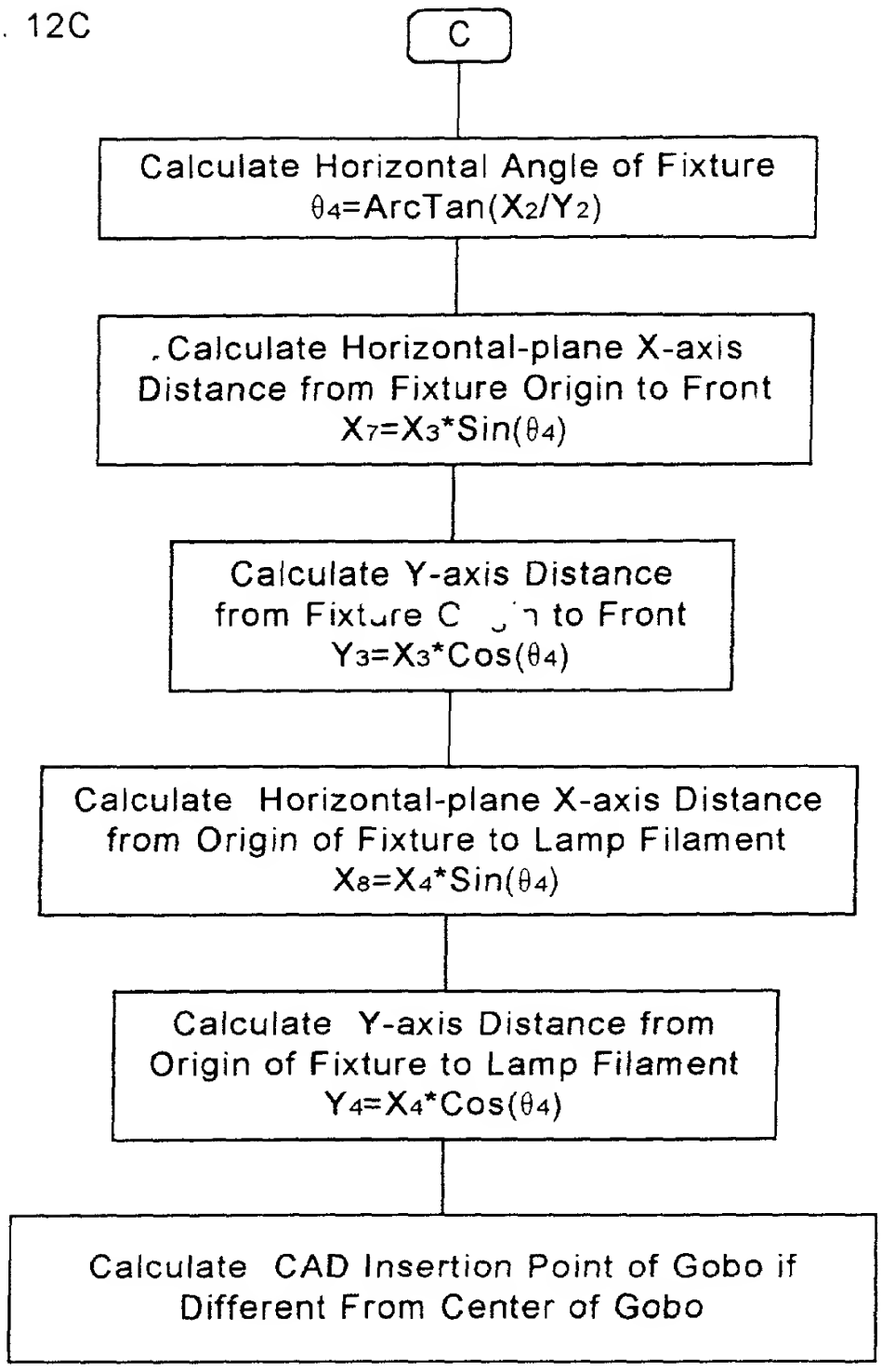

C
Calculate Horizontal Angle of Fixture
θ4=ArcTan(X2/Y2)
Calculate Horizontal-plane X-axis Distance from Fixture Origin to Front
X7=X3*Sin(θ4)
Calculate Y-axis Distance from Fixture Origin to Front
Y3=X3*Cos(θ4)
Calculate Horizontal-plane X-axis Distance from Origin of Fixture to Lamp Filament
X8=X4*Sin(θ4)
Calculate Y-axis Distance from Origin of Fixture to Lamp Filament
Y4=X4*Cos(θ4)
Calculate CAD Insertion Point of Gobo if Different From Center of Gobo

Fig. 12D

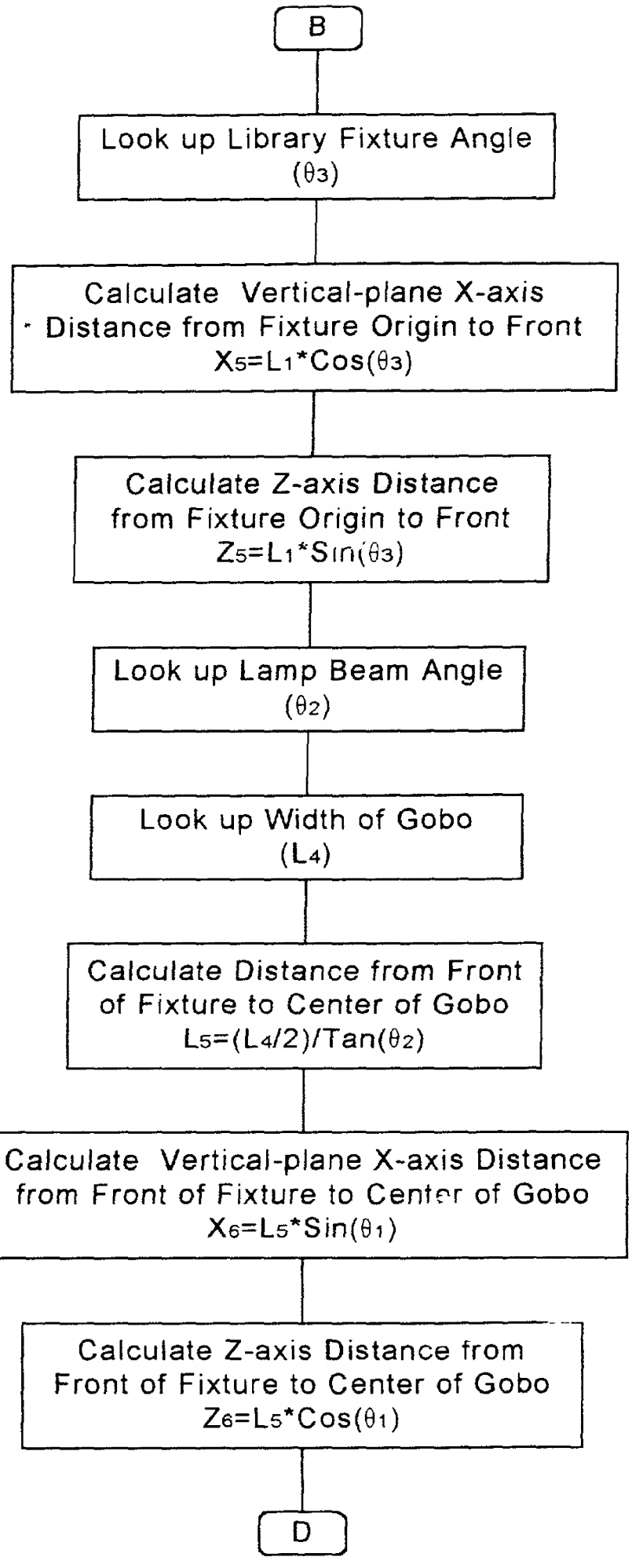

B
Look up Library Fixture Angle
(θ3)
Calculate Vertical-plane X-axis
Distance from Fixture Origin to Front
X5=L1*Cos(θ3)
Calculate Z-axis Distance
from Fixture Origin to Front
Z5=L1*Sin(θ3)
Look up Lamp Beam Angle
(θ2)
Look up Width of Gobo
(L4)
Calculate Distance from Front
of Fixture to Center of Gobo
L5=(L4/2)/Tan(θ2)
Calculate Vertical-plane X-axis Distance
from Front of Fixture to Center of Gobo
X6=L5*Sin(θ1)
Calculate Z-axis Distance from
Front of Fixture to Center of Gobo
Z6=L5*Cos(θ1)
D

Fig. 12E

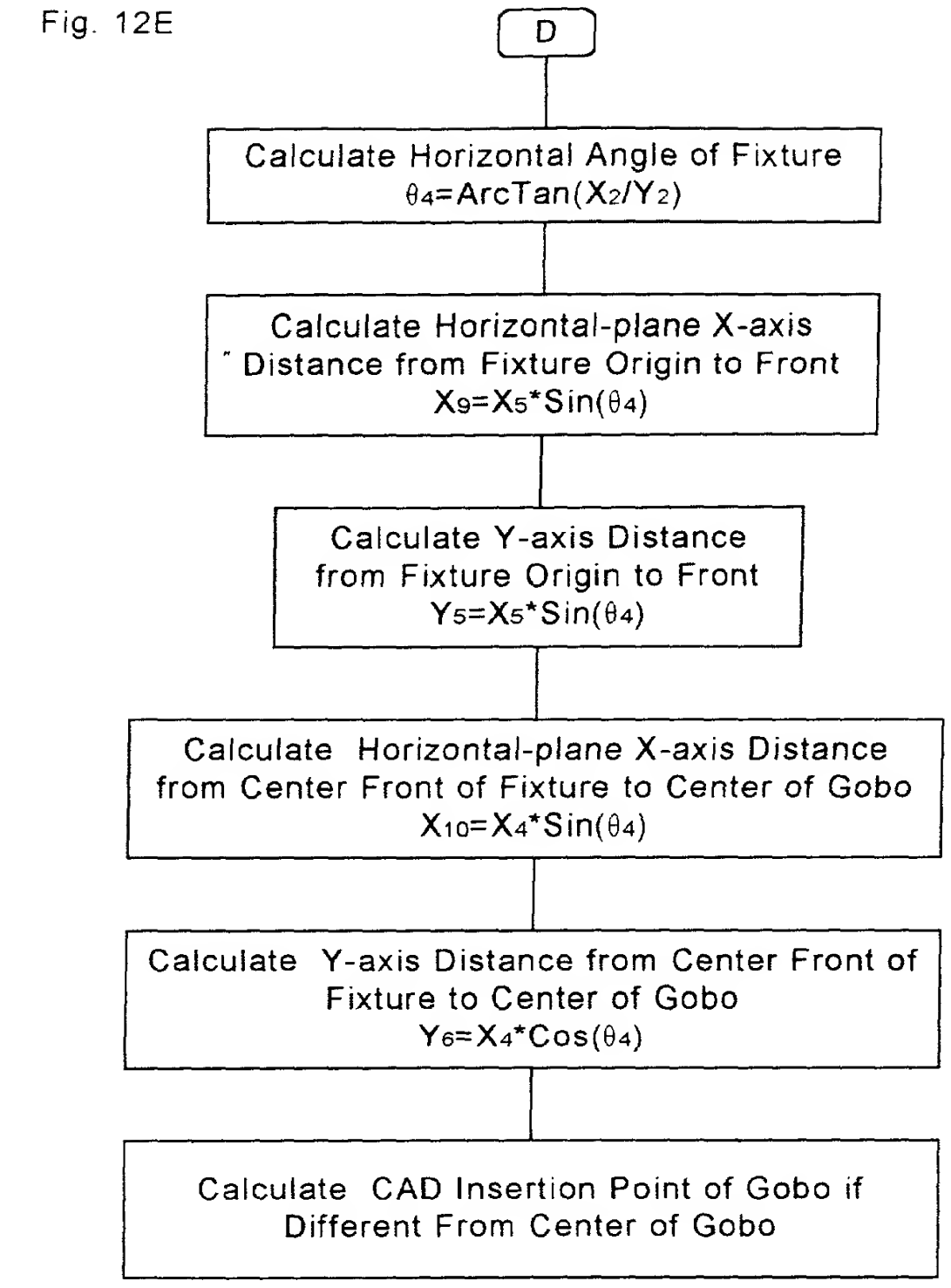

D
Calculate Horizontal Angle of Fixture
θ4=ArcTan(X2/Y2)
Calculate Horizontal-plane X-axis Distance from Fixture Origin to Front
X9=X5*Sin(θ4)
Calculate Y-axis Distance from Fixture Origin to Front
Y5=X5*Sin(θ4)
Calculate Horizontal-plane X-axis Distance from Center Front of Fixture to Center of Gobo
X10=X4*Sin(θ4)
Calculate Y-axis Distance from Center Front of Fixture to Center of Gobo
Y6=X4*Cos(θ4)
Calculate CAD Insertion Point of Gobo if Different From Center of Gobo

Fig. 13A

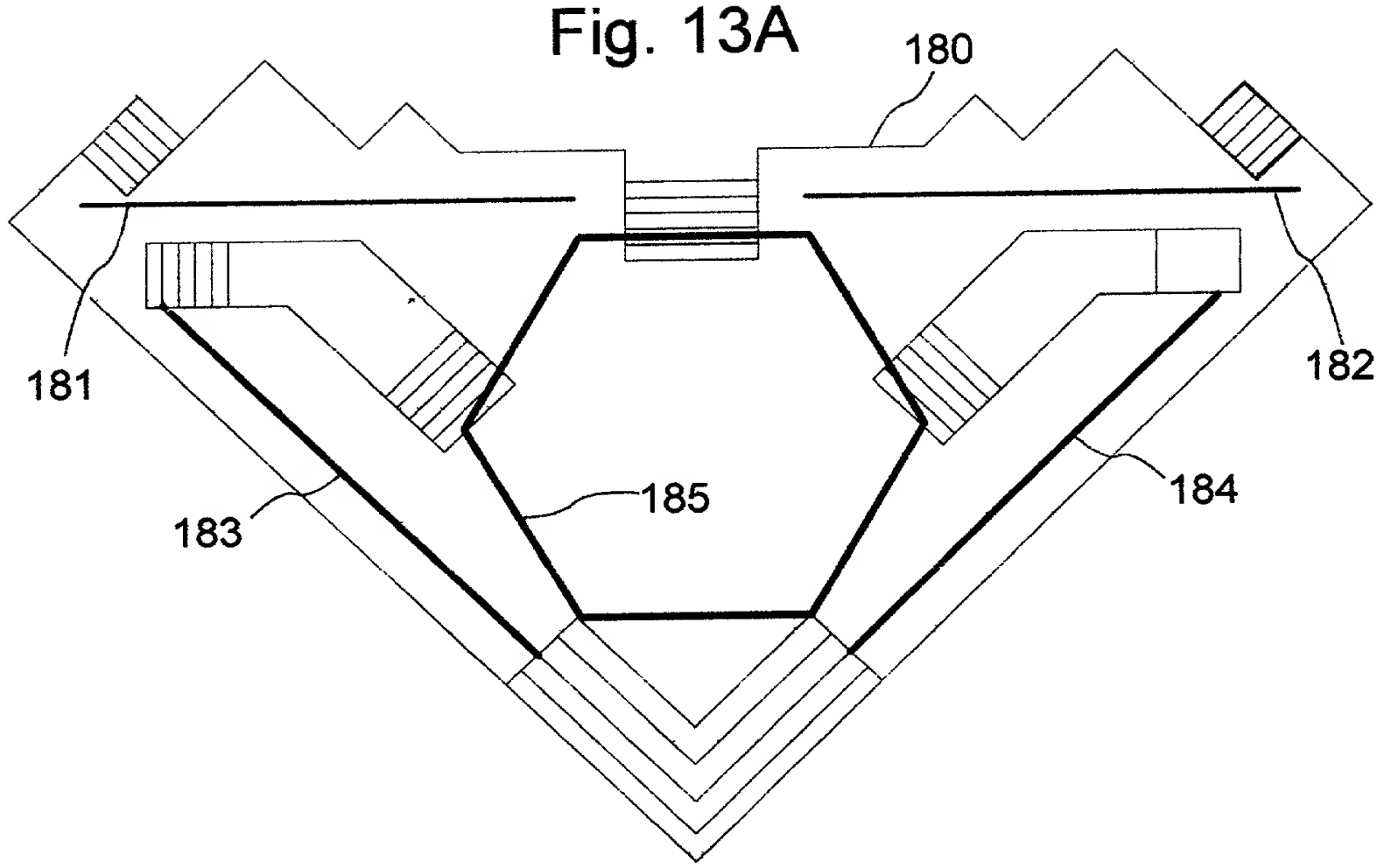


Fig. 13B

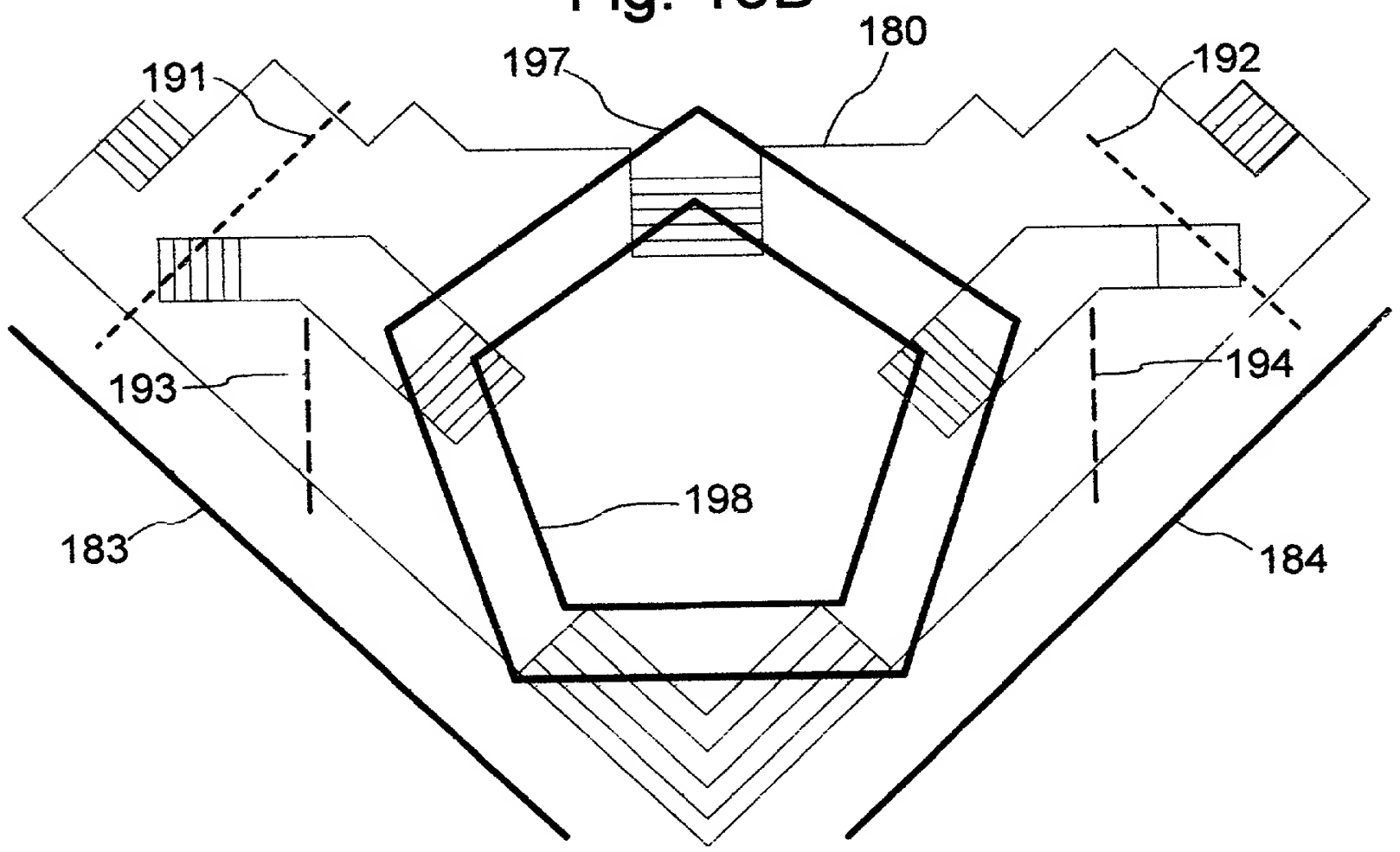


Fig. 14

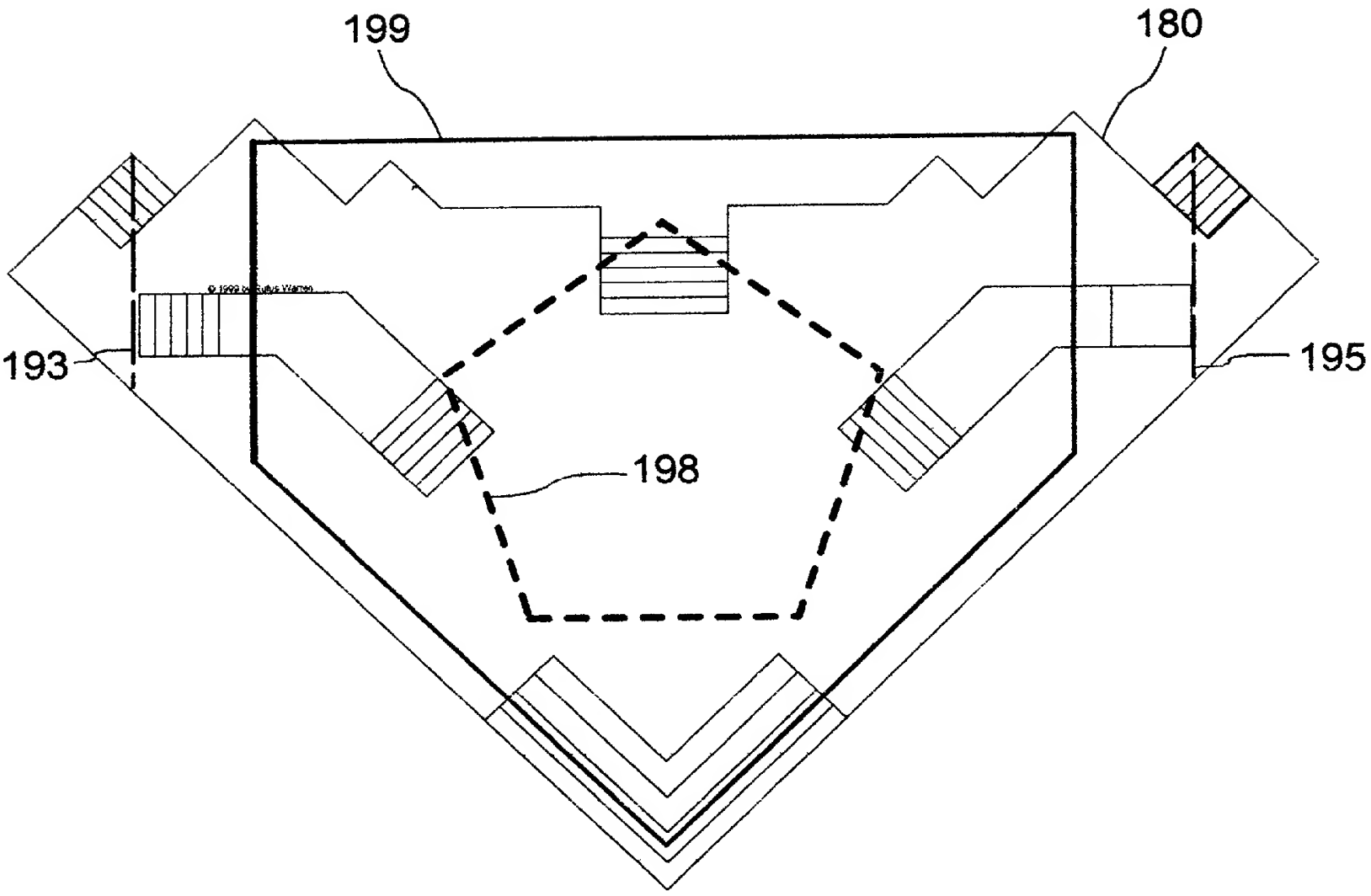


Fig. 15

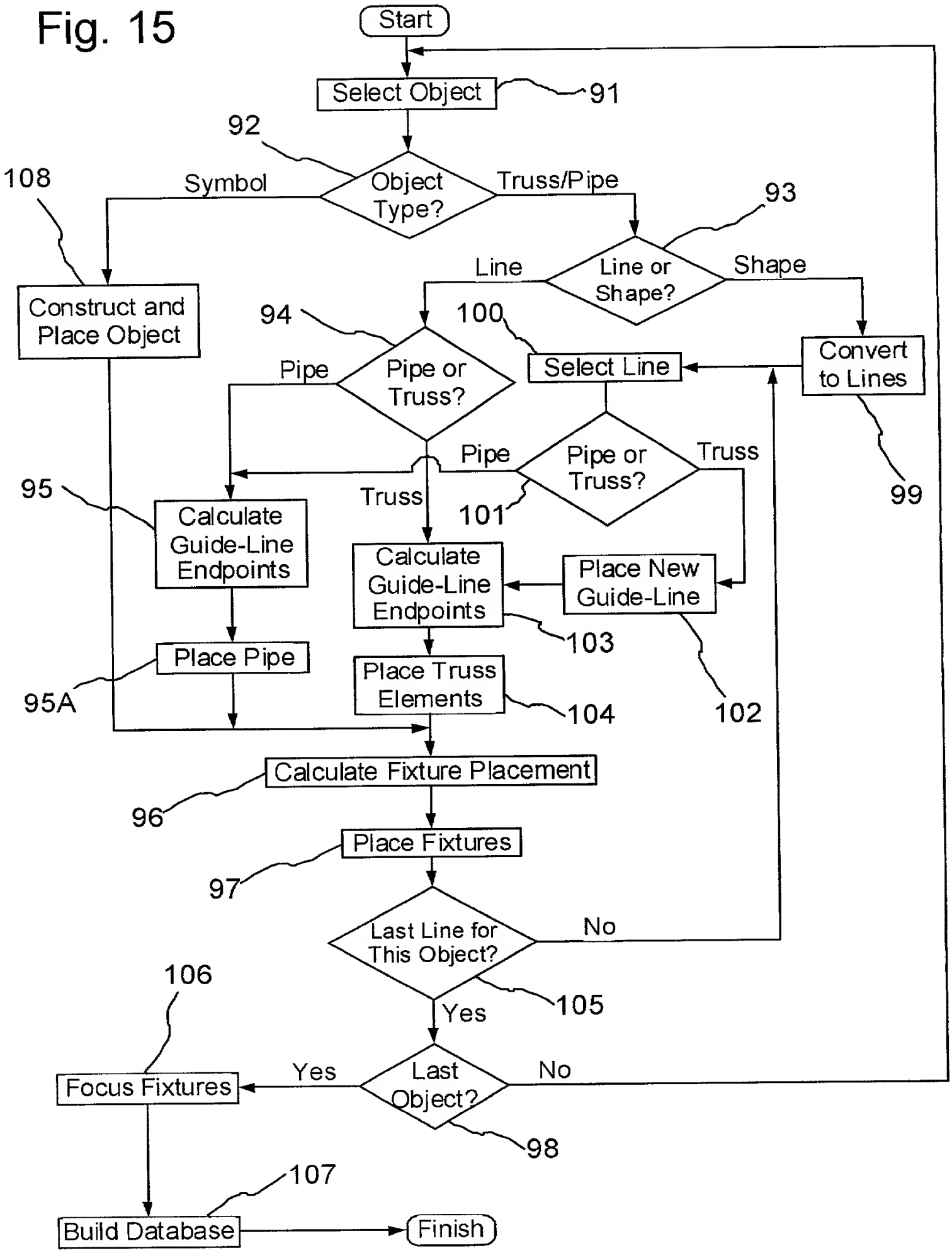

Start
Select Object
91
92
Object Type?
Symbol
Truss/Pipe
108
Construct and Place Object
93
Line or Shape?
Line
Shape
94
Pipe or Truss?
Pipe
100
Select Line
Convert to Lines
99
Pipe or Truss?
Pipe
Truss
101
95
Calculate Guide-Line Endpoints
Truss
Calculate Guide-Line Endpoints
Place New Guide-Line
103
102
Place Pipe
95A
Place Truss Elements
104
Calculate Fixture Placement
96
Place Fixtures
97
Last Line for This Object?
No
105
106
Yes
Focus Fixtures
Yes
Last Object?
No
98
107
Build Database
Finish

Fig. 16

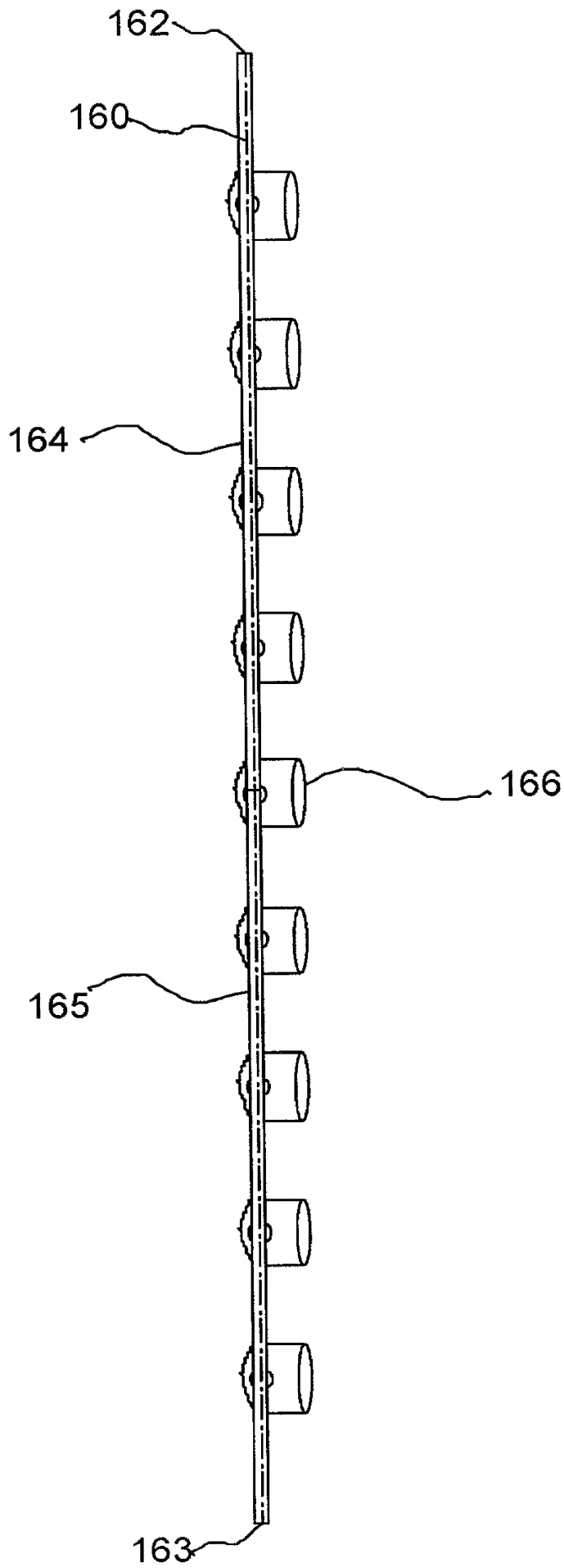


Fig. 17A

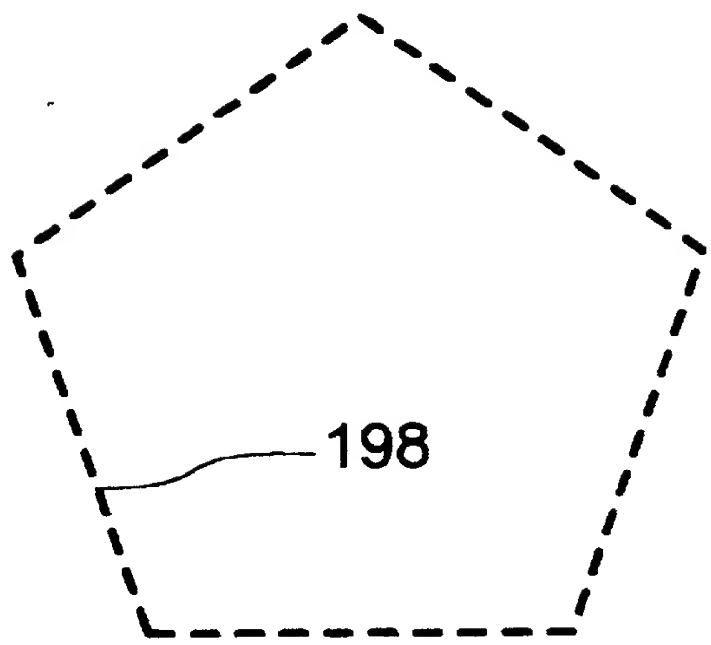


Fig. 17B

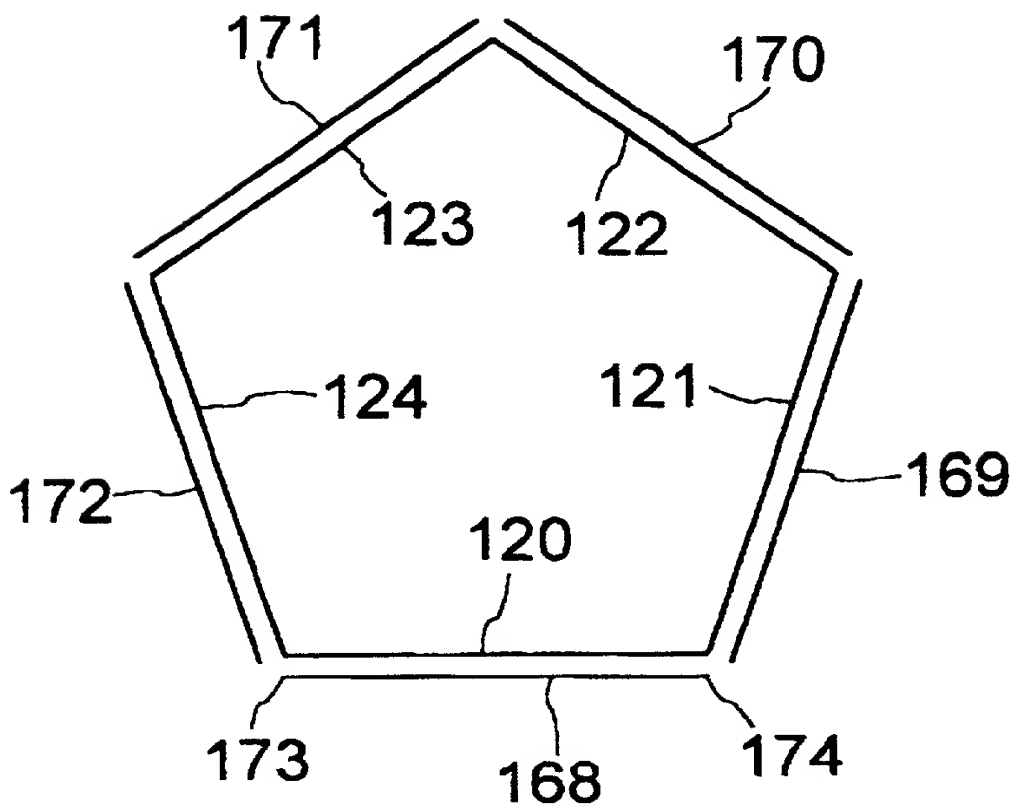


Fig. 17C

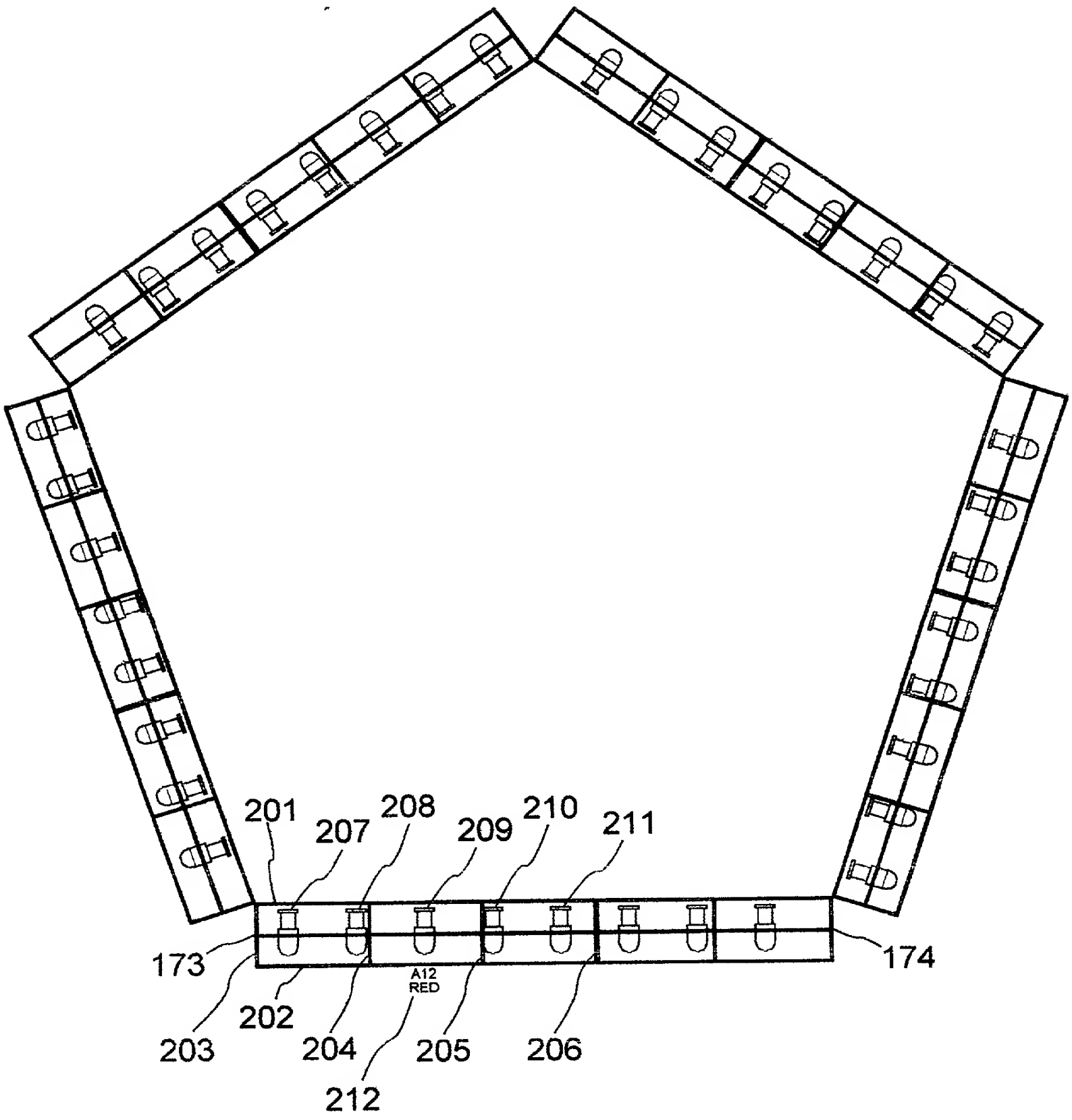


Fig. 18

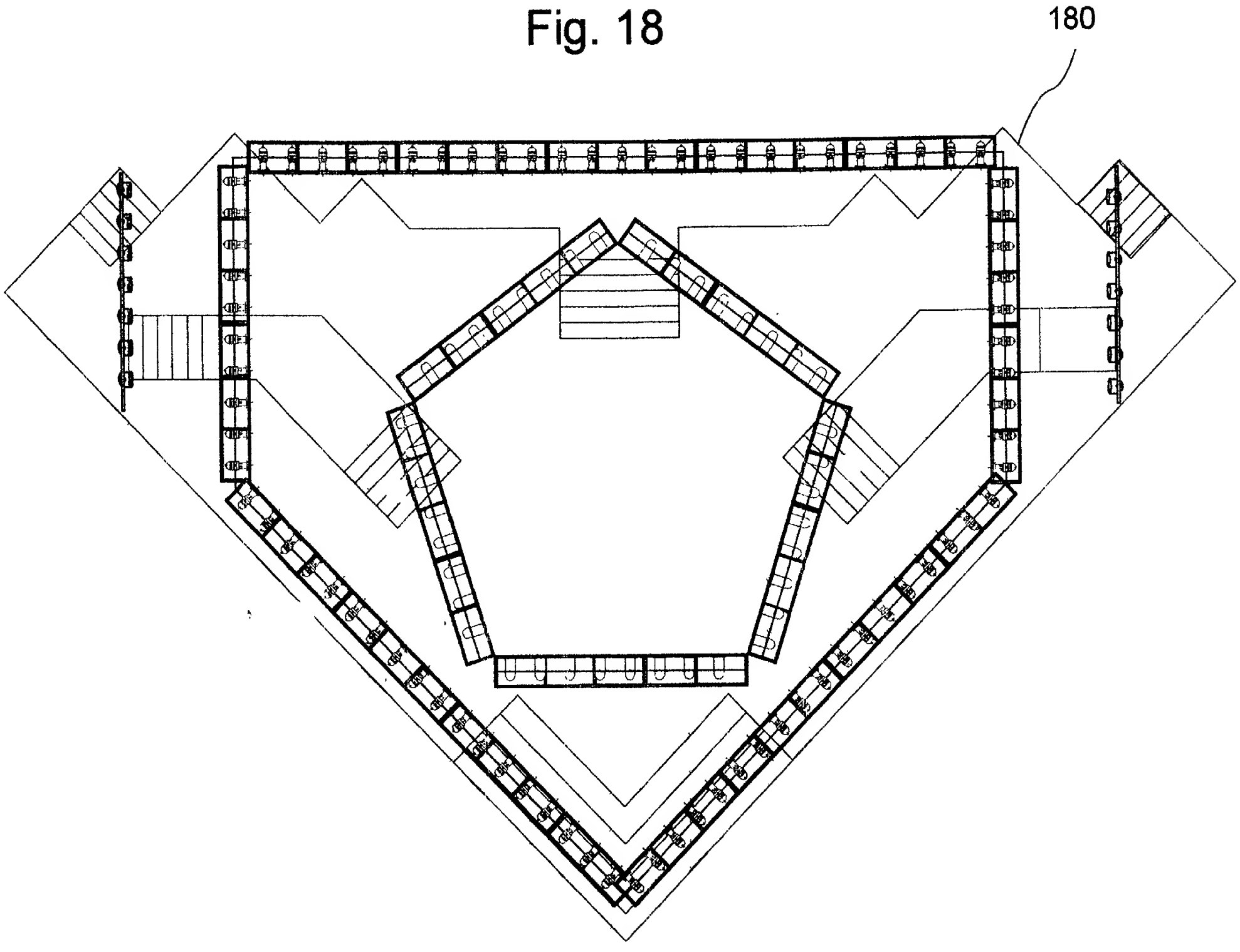


Fig. 19

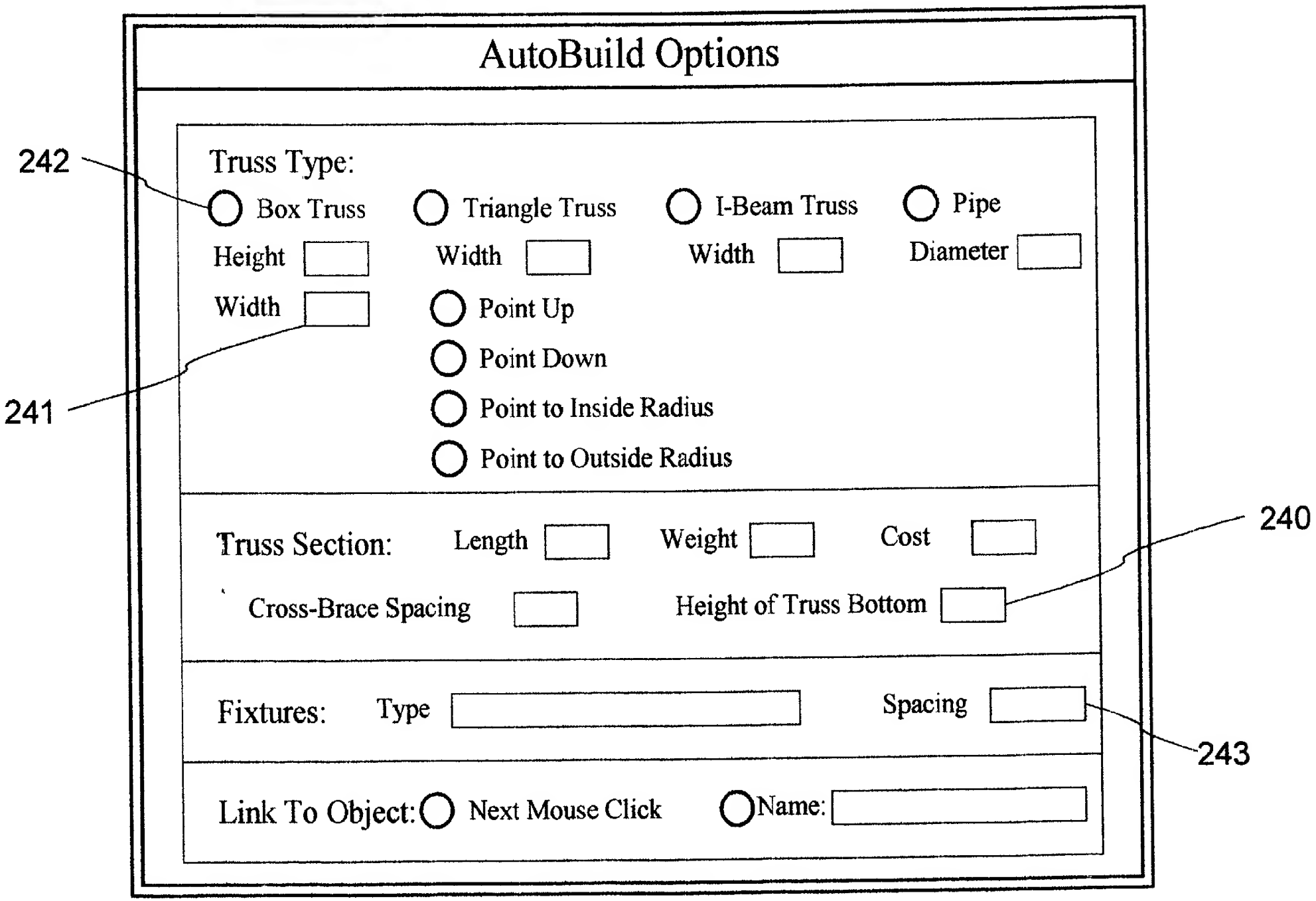

AutoBuild Options
Truss Type:
Box Truss
Triangle Truss
I-Beam Truss
Pipe
Height
Width
Width
Diameter
Width
Point Up
Point Down
Point to Inside Radius
Point to Outside Radius
Truss Section:
Length
Weight
Cost
Cross-Brace Spacing
Height of Truss Bottom
Fixtures:
Type
Spacing
Link To Object:
Next Mouse Click
Name:
242
241
240
243

Fig. 20

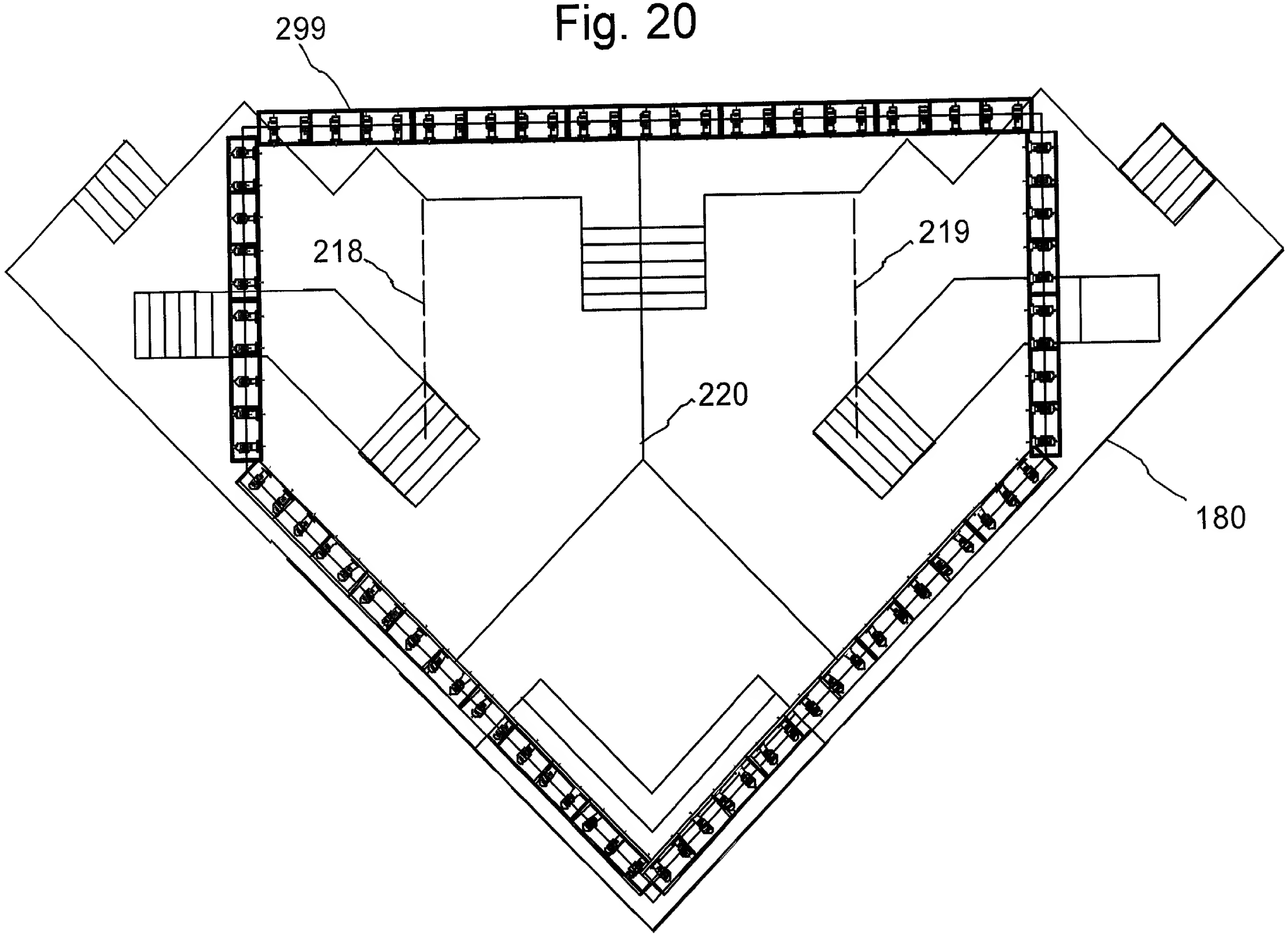


Fig. 21

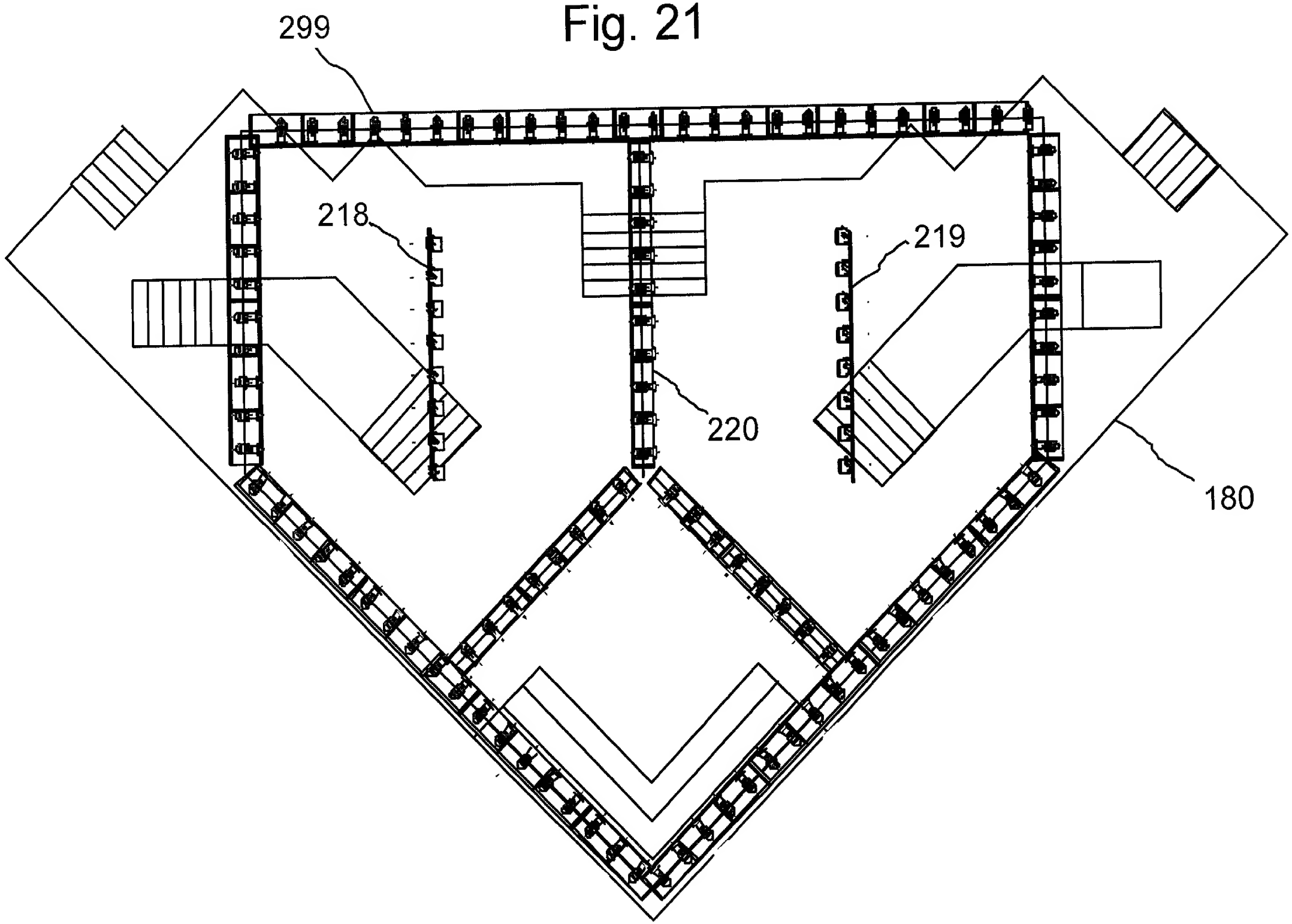


Fig. 22

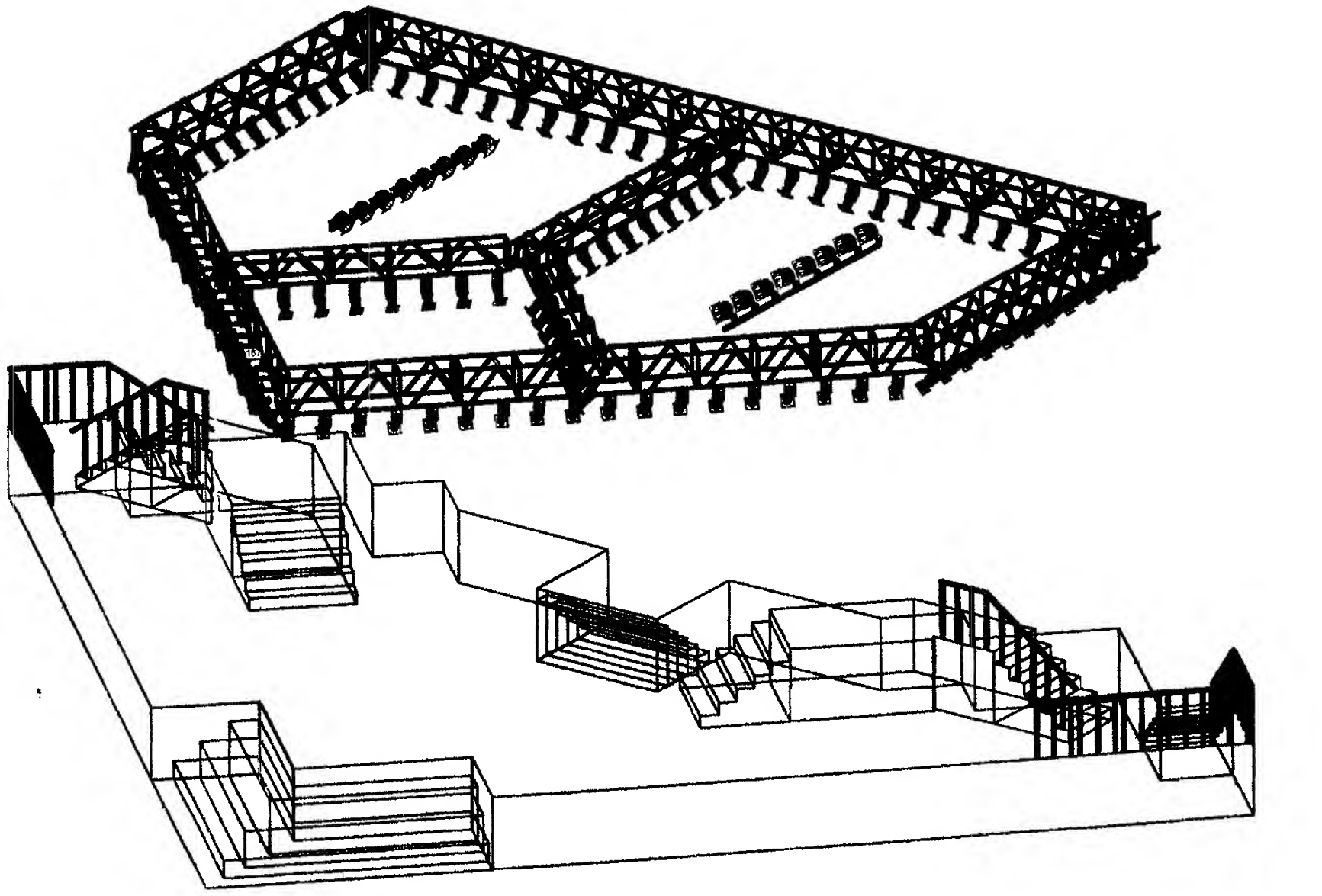


Fig. 23

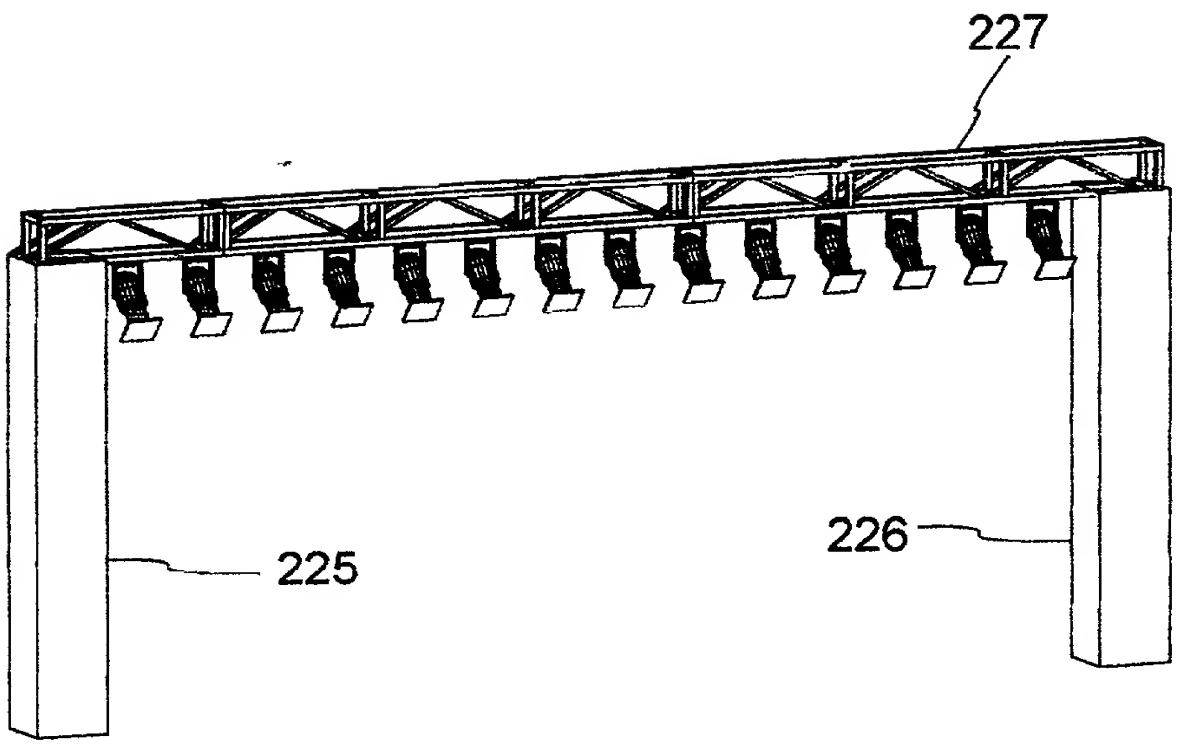


Fig. 24A

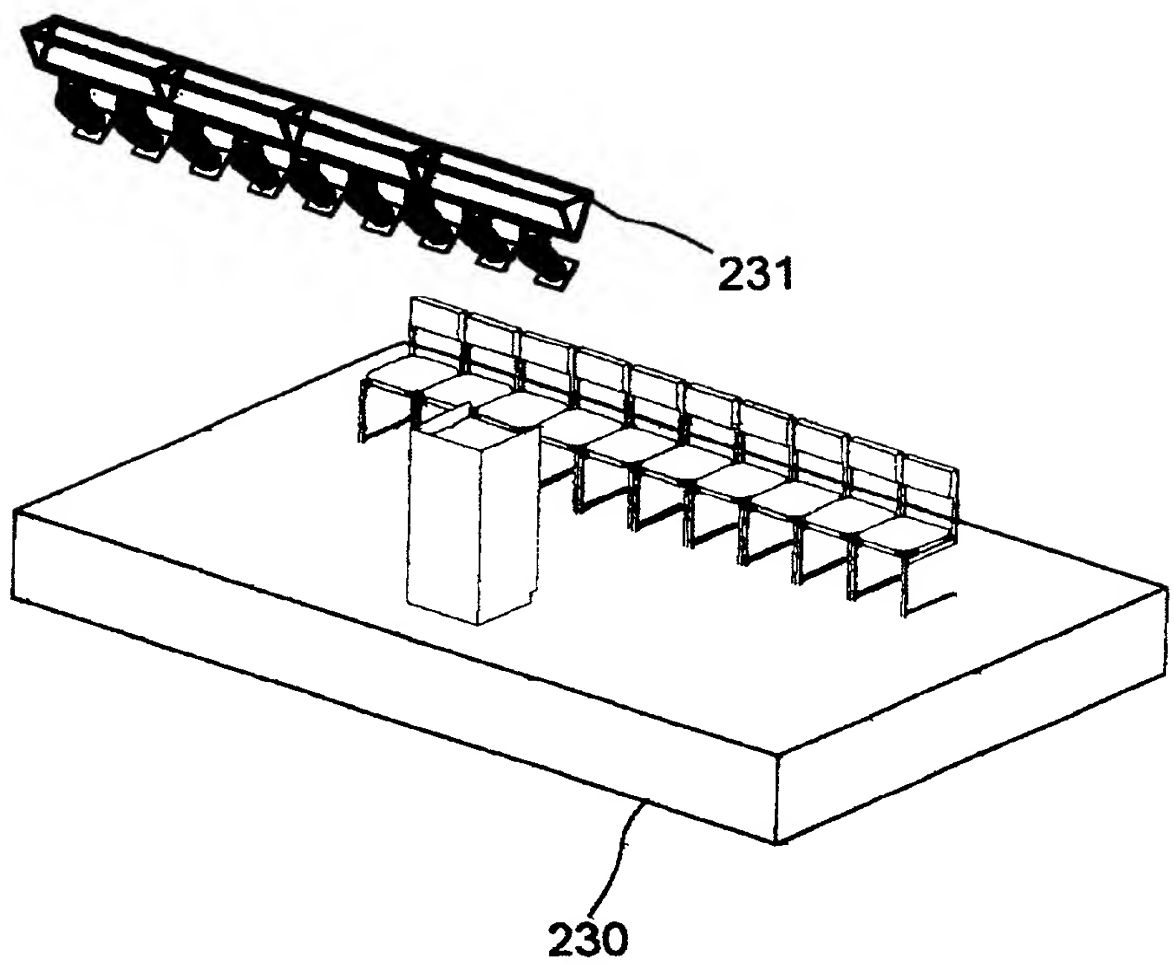


Fig. 24B

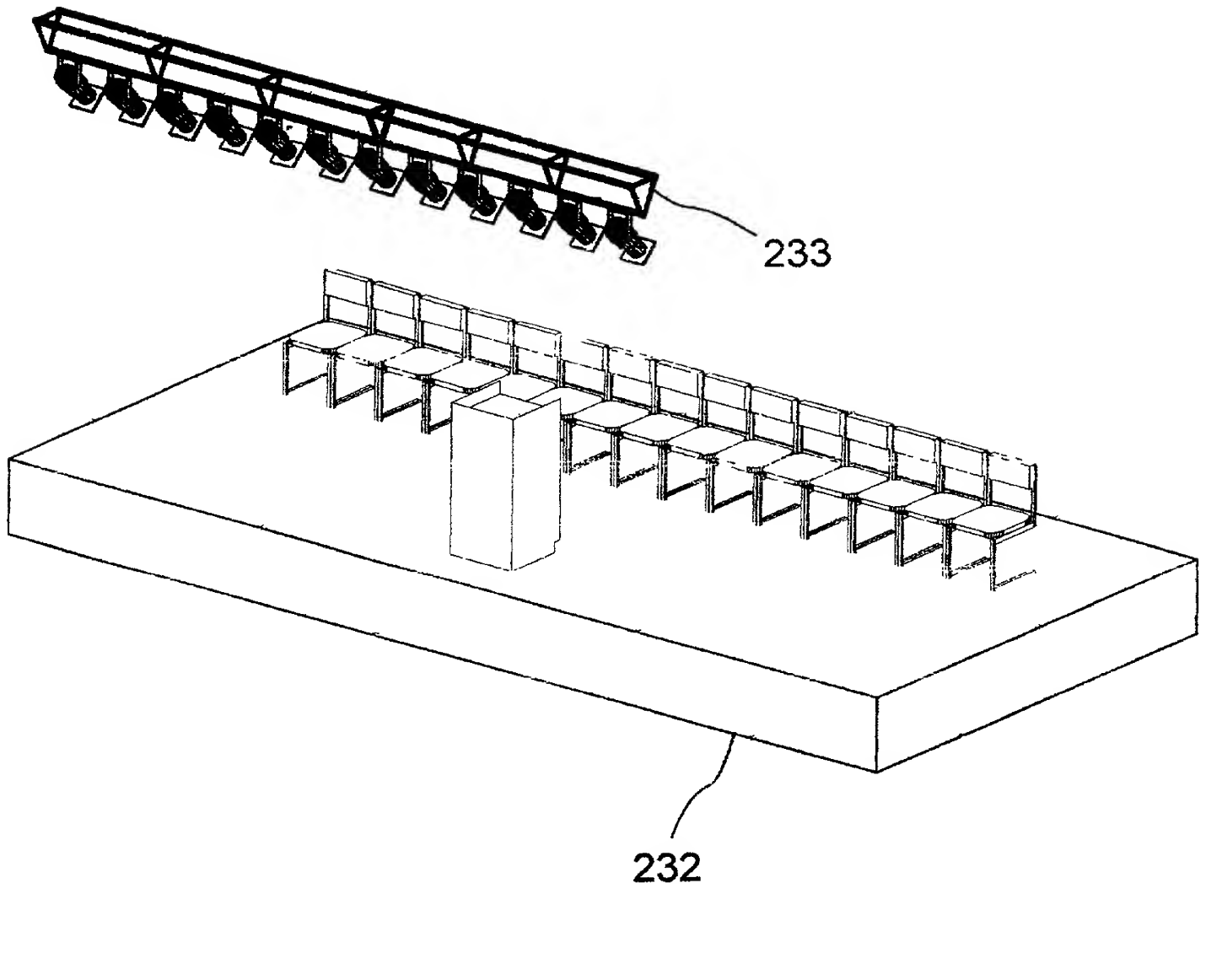
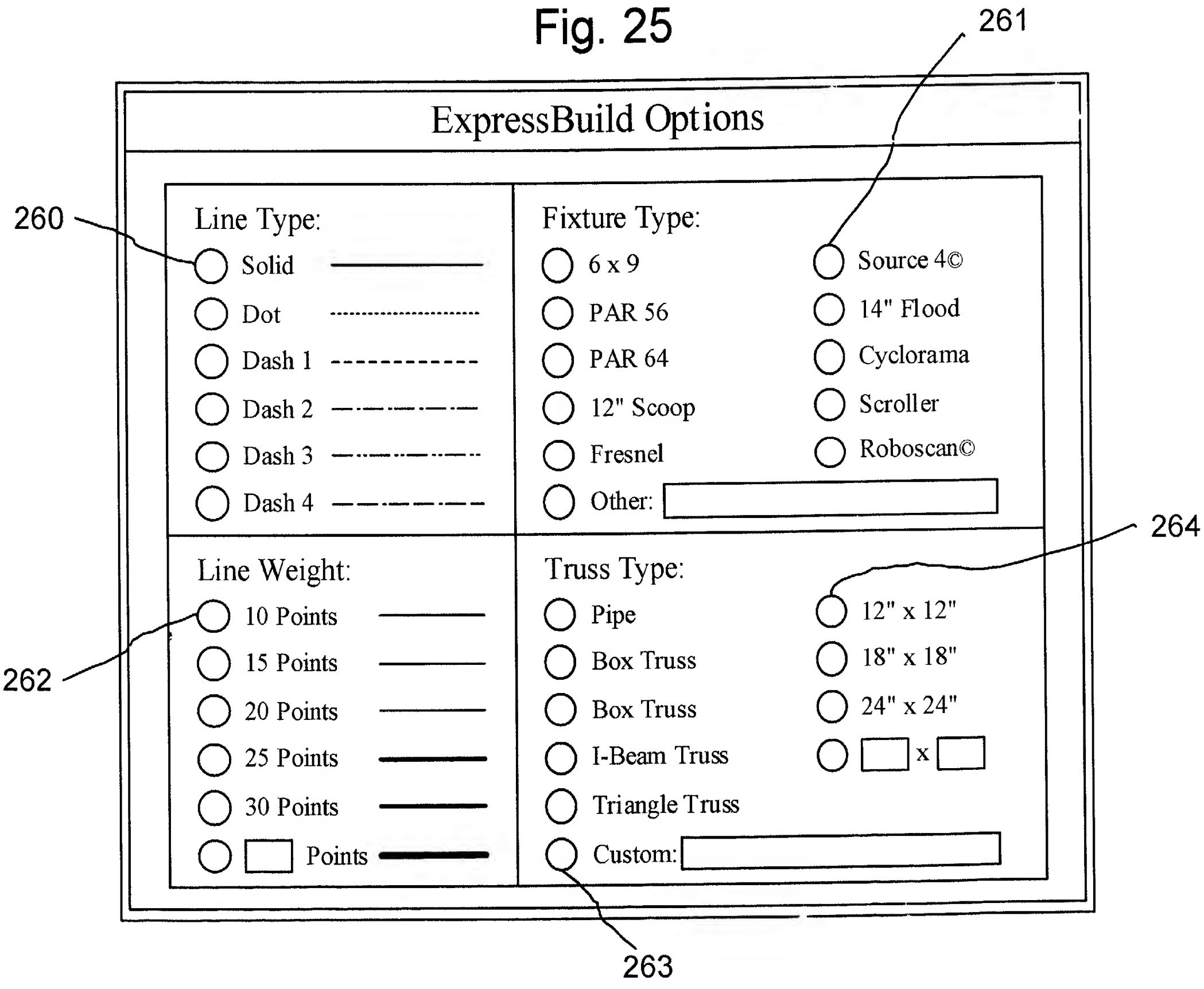


Fig. 25


ExpressBuild Options
260
261
Line Type:
Solid
Dot
Dash 1
Dash 2
Dash 3
Dash 4
Fixture Type:
6 x 9
PAR 56
PAR 64
12" Scoop
Fresnel
Other:
Source 4©
14" Flood
Cyclorama
Scroller
Roboscan©
Line Weight:
10 Points
15 Points
20 Points
25 Points
30 Points
Points
262
Truss Type:
Pipe
Box Truss
Box Truss
I-Beam Truss
Triangle Truss
Custom:
12" x 12"
18" x 18"
24" x 24"
x
263
264